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ABSTRACT

In January of 1987, a planning conference was convened by the Center for Education Statistics as part of an effort to study the feasibility of various approaches to the nationwide assessment of children's readiness for instruction in kindergarten and first grade. This report provides, in an appendix, the texts of the four commissioned papers presented at the conference: (1) Pamela A. J. Selden's "Readiness for School: A Teacher's Perspective"; (2) Virginia C. Shipman's "Basic Abilities Needed as a Precondition for School"; (3) David Elkind's "How Children Learn"; and (4) Lorrie A. Shepard's "The Assessment of Readiness for School: Psychometric and Other Considerations." Also provided in the report are brief introductory remarks concerning the conference; summaries of the presented papers; condensed statements of the principal viewpoints expressed in the conference discussions; a commissioned synthesizing paper by Lorin W. Anderson which concerns implications of the papers for the Center; and a summary of discussions, recommendations, and arguments advanced at the conference. The four conference papers are reproduced in Appendix A. Appendix B lists conference participants. Appendix C offers biographical sketches of the speakers. (RH)

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The Assessment of Readiness for School: Implications for a Statistical Program

Report of a Planning Conference

January 13, 1987

Prepared by
George H. Brown
with
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U.S. Department of Education
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Center for Education Statistics

"The purpose of the Center shall be to collect and disseminate statistics and other data related to education in the United States and in other nations. The Center shall . . . collect, collate, and from time to time, report full and complete statistics on the conditions of education in the United States; conduct and publish reports on specialized analyses of the meaning and significance of such statistics; . . . and review and report on education activities in foreign countries,"—Section 406(b) of the General Education Provisions Act, as amended (20 U.S.C. 1221e-1).

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Chapter 1

Introduction

Conference Purpose

In recent years there has been a burgeoning of interest in the assessment of educational attainment. Most assessment activities are focussed on outcomes,--ascertaining how much students learned as a result of participation in an instructional activity. Because of the high level of interest in educational assessment at the pre-primary level, U.S. Secretary of Education William J. Bennett directed the Center for Education Statistics to undertake feasibility studies of various approaches to assessing first grade readiness. The conference which forms the basis of this report is a major step in implementing that directive.

Through the years, children entering kindergarten or first grade were informally assessed as to their readiness for starting school. With the growing interest in assessment, many school districts introduced formal programs for assessing readiness for kindergarten or first grade. In some instances the intent is to identify children in need of special education. In other cases the intent is to identify (and perhaps hold back) children who are judged not sufficiently mature, either emotionally or cognitively, to profit from standard instruction. Others use entry level scores at the school level to control for initial differences in examining school effectiveness. There is much dispute in the literature of early childhood education about the desirability and effeciveness of such programs.

Selection and Commissioning of the Speaker/Paper Writers

A distinguished panel was selected from a list of experts recommended to the Department by individuals who themselves had excellent credentials in early childhood education, developmental psychology, and psychometrics.

The panelists' charge was to address the following topic:

> How can readiness at roughly the kindergarten or first grade level best be assessed in a nationwide statistical study? What has been tried at this grade level, and what were the results?

The four panelists were commissioned to prepare and present a substantive paper on a mutually agreed upon topic within the general area of assessment of readiness for school. A fifth expert was commissioned to serve as synthesizer and discussion leader. His task was to lead the general discussion and to

distill from it a set of explicit recommendations as to what statistical activities, if any, the Center for Education Statistics should undertake in the general area of assessment of readiness for school.

Plan of This Report

Chapter 2 presents executive summaries of the four commissioned papers. These are the papers and their authors:

* Readiness for School: A Teacher's Perspective, by Pamela A. J. Selden, The Sidwell Friends School, Washington, D. C.

* Basic Abilities Needed as a Precondition for School, by Virginia C. Shipman, University of New Mexico.

* How Children Learn, by David Elkind, Tufts University.

* The Assessment of Readiness for School: Psychometric and Other Considerations, by Lorrie A. Shepard, University of Chicago.

Chapter 3, "Summary of Discussions," consists of condensed statements of the principal viewpoints from the discussions.

Chapter 4, "Implications for the Center," consists of two parts. The first part is the commissioned synthesizing paper, which was prepared after the conference, by Lorin W. Anderson, of the University of South Carolina. It is entitled Comments on a National Assessment of School Readiness. The second part of Chapter 4 has comments on the conference by David A. Sweet, Director, Education Outcomes Division, Center for Education Statistics.

Appendix A consists of the four papers as provided by the authors. In some instances, a paper was slightly revised by the author after presentation. Appendix B is a list of the conference participants. Appendix C presents biographical sketches of the speakers.

Chapter 2

Paper Summaries

Introductory Note

This chapter presents executive summaries of each of the four papers commissioned for the conference. Each summary was prepared by the paper's author.

Summary

Readiness For School: A Teacher's Perspective

Pamela A. J. Selden
Sidwell Friends School
Washington, D.C.

Almost daily, as a first grade classroom teacher, I find myself focusing on a number of children. I ask myself and fellow teachers, "How did this child get here?" "How will she fare next year?" "This child needs more time. This child just isn't ready."

Readiness for school, for more formal learning, becomes an issue that almost every pre-school, kindergarten and first grade teacher faces throughout the year. And because the same child who may be very ready or unready for school the first year may continue in this manner as he moves through the grades, readiness for school can affect the child and school for years to come.

I have thought long and hard about readiness and there seem to be many more important questions available than there are answers. What does being ready for school mean? How can we best identify and assess who is and who is not ready for school? How important is readiness? How do children who are ready get ready and how do children who are not yet ready become so? These are questions that are at once technical, pedagogical and ethical. Our tentative answers must respond to all these issues.

The assessment of readiness in young children is a complex undertaking due in large measure to the incredible variety of developmental levels and diversity found among an average group of six-year-olds. First graders are somewhat like their teeth ... in and out, changeable, varied and often uneven. There are children who can ride two-wheelers playing with children just learning to skip. Some children can read on a third grade level while others are learning to recognize letters of the alphabet.

Our fast paced, rapidly changing society expects much from these beginning students. Five- and six-year-olds are asked to grow up early as evidenced by adult styled children's clothing and high pressure sports activities. In school, expectations intensify. Most second grade curriculums want children to be reading and writing.

Once a child enters the formal school system at kindergarten or first grade it is difficult to stop and say "Wait, this child isn't ready; this child needs more time." Perhaps time to grow physically or socially, time to build with blocks, to explore at a water table, to practice speaking in sentences or to learn specific academic readiness skills. Once started, there is little time to get ready to start.

Often then this child's progress is not viewed in terms of needing time to grow ready in one or more areas, but in terms of failure. "Jessie still doesn't know the alphabet." "That Eduardo simply can't or won't sit still."

Even when asked to repeat another year, especially at the first grade level, the child may not necessarily have the experiences that promote readiness.

Beginnings are important in almost any endeavor. They are especially important in school. What does being ready mean? What do teachers look for in the classroom? The following list includes some of the guidelines I have found useful in talking with parents and colleagues.

1) Is the child able to look outwards? To expand horizons beyond immediate self and family to the new, more formal learning experience.

2) In most school settings, learning takes place in a group context. Is the child ready to be a group member; to share, to compromise, to function and learn in a group?

3) Is the child able and open to trust others? To form relationships with other children and teachers? It can be difficult to take an active part in learning if you feel isolated, without friends, left out.

4) Does the child demonstrate the beginnings of responsibility for self and belongings? Does he or she show a measure of independence and inner self control? Is he or she becoming self directed?

5) Does the child have an adequate attention span? The ability to focus, to concentrate and remain with an activity. The classroom often asks the child to wait, to listen, to follow directions and to interact with people and materials in an organized manner.

6) Is the child able to communicate and use language, able to organize thoughts in a connected way that makes sense?

7) Does the child show age appropriate large and small motor development, visual and auditory discrimination and memory.

8) Even though the child may not recognize alphabet letters and sounds, does the child hold the concept that the printed text is spoken language written down?

9) Most importantly, can the child invest in school and begin to understand they play an important part in the process? Is the child available for learning?

10) Lastly, it can be difficult or impossible to begin to learn in school if you are hungry, abused, emotionally disturbed or worried about chronic problems at home or have serious physical learning or speech issues that might need special intervention. Has society provided necessary social supports?

This brief list is only a beginning. More readiness criteria may be found in school report cards, student evaluation forms and on standardized tests. We must attend to their findings while recognizing their limitations. Assessment may still be more of an art than a science.

It is most important to see readiness as a continuum. Few children are completely ready or unready and it is often easy to assess these children. Readiness must further be seen as a combination or constellation of many ingredients. They are ingredients that act alone and in consort. It is in their interactions that we find our students.

Much can happen in a school year for a child. Every year children who had seemed very unready in September or December blossom in February or even May. As readiness is a continuous process, so too is learning to read, write, think mathematically and esthetically, and to adjust to formal schooling.

Because children are so varied and readiness is composed of a multiple of ingredients, no single factor should be used to determine readiness. We need to look carefully at readiness test scores if available, observe the child in the classroom, consider academic curriculum expectations, the child's social and emotional development and parental imput. Far more difficult to measure, we need to seriously consider the qualities of curiosity, determination and motivation that all children bring to school. It is the interaction of these various competencies that accounts for what I would call readiness.

The need for readiness in one or two areas can often be overcome by a year of growth, careful systematic teaching and supportive help. If a child is unready on several fronts, it is time to wait--to wait and to give time and the special help needed.

Readiness speaks to beginnings and the beginnings of school are like no others. Classrooms are scrubbed and curricula are readied. Children are excited and eager to discover their power and potential as learners. We owe them our best assessments. We must ask not only are children ready for schools - but are schools ready for children? We need to be ready to carefully assess and provide programs to meet their needs.

Readiness is a quality of both persons and our institutions.

Summary

Basic Abilities Needed As a Precondition for School

Virginia C. Shipman
University of New Mexico

When I asked myself the question, What basic abilities do children need as preconditions for school?, I immediately found myself asking a parallel question, What abilities do we adults need to provide these children the environments that will nurture and enhance their development?

Development is an interactive process. Thus, those abilities perceived in the present are the result of innumerable complex interactions between the individual and the many environments in which he/she became engaged. The child development literature repeatedly indicates that the period between birth and five years of age is marked by intense growth in children's cognitive (as well as other) functions and this growth occurs as a result of the children's interactions with their environment, both physical and social. For the young child, the home environment is especially important, as we view the family as the child's primary educator. And research has shown us that the home environment is a complex system of dynamic reciprocal interactions among household members that gross proxy variables such as socioeconomic status, race, ethnicity, and sex do little to explain. Instead, we need to examine the interrelationships of the various status, situational and process variables comprising the home environment, note their interactions with the broader macroenvironment and then attempt to understand their varying influence on various aspects of the child's development.

Similarly, we cannot simply ask what abilities does the child need upon entering school, but must ask the question specific to the context. What school, with what external and internal environmental characteristics, with what administrative and teaching personnel, with what curricula and modes of instruction, and with what diversity of students? I must assume, therefore, that we are asking the question with regard to an ideal situation--that we are asking the question "What must the child bring to a school setting that is geared to provide the varied resources required to build upon these abilities, to foster continued growth in those areas society has agreed are essential school tasks?"

The question being addressed also requires that we know what is required for development of a contributing adult member of our society; and that we know how and when to assess these aspects at various developmental levels and for the diverse cultural backgrounds of the children that attend our schools; and that if we can identify these abilities we know how to support and

facilitate their growth and have available the procedures that can effect positive changes in those children who are not at a predetermined desired entry level.

Thus not only have we asked a question apparently context free (and thereby to a large extent I believe answerable), but we also have asked an apparently very limited one. First, let us be explicit in stating that the word "ability" in no way restricts us to the cognitive domain; unfortunately, too many of our colleagues have done that and then compounded the error by limiting the range of cognitive behaviors examined to broad academic skills. But even with that caution, the word "ability" is too restrictive. When we ask instead, What do children need when they enter school?, we must include other personality dimensions such as attitudes, interests and cognitive styles as well as attributes of physical health and nutritional status. Not only must these other domains be included because they are an integral part of any performance measure we use, but because they comprise important areas of readiness for school to be a facilitative environment.

For children to benefit from their school experiences they need to have been able to have a good night's rest--not to have been kept awake by a shelter with inadequate heat or by the crowding of others sharing their bed, or by the loud shouting of adults who have drunk too much or were "high" on drugs or were angrily attacking each other out of personal anxieties and frustrations from their past experiences or from the present stresses of a society that demands much and gives too little.

Children need to be free of physical and emotional pain from physical and/or sexual abuse; they need to be not suffering from untreated illness or lack of sufficient food; they need to have had experiences that enable them to feel trust among strangers, to perceive adults as resources and other children as potential friends; they need to be inquisitive and curious about the world; and last, but certainly not least, children need to have learned to perceive school as a place to value and enjoy, to view school as an exciting setting where new understandings and behaviors are learned.

Thus I see the following as needed by the child entering the typical school setting--good health; self-confidence; self-help skills; both oral and aural understanding of the dominant culture's language; trust in adults and children who are strangers; social skills; ability to delay gratification; ability to attend; evidence of both short-term and relatively long-term memory; some understanding of cause-effect relationships; certain reading prerequisites such as decoding skills, and knowledge about reading, about the function and, to an extent, the form of print; enthusiasm for school and its activities; curiosity and the desire to learn and to reason; and the motivation to achieve and do well in an academic setting.

If we assume there are necessary preconditions, then what responsibilities do we have for enabling them to be met? And to what extent do these responsibilities vary depending upon whether we are discussing kindergarten or first grade? Experienced teachers quickly assess who is ready for their classroom and who is not--who will be successful according to whatever criteria are used and who will not. Children to be successful must know and be assisted in achieving what is expected of them.

Even within restricted samples of economically disadvantaged families, differences in parental education level, physical and psychological resources in the home, encouragement and involvement in school-related tasks, achievement expectations, use of alternatives to physical punishment in response to children's misbehavior, knowledge and use of community resources, encouragement of verbalization, use of rationales, and modeling of literacy behaviors have been shown to be associated with the child's preschool and later school progress. Research is needed on further delineation of family process variables and their relationships to those specific elements being identified as components of early reading and mathematic skills.

Due to programs such as Head Start, parent involvement is now a common goal when discussing school programs; but it is not yet a common practice. Research has shown the long-term benefits of efforts enhancing the role of the family as educator and of home-school partnerships in which the home both supplements and complements the school environment--benefits for the whole family as well as for the particular children being studied. But in many, too many places, both parents and school personnel are afraid, untrained, and lack the support necessary to become partners. Fortunately, there is the growing recognition that decreasing discontinuities between home and school environments can facilitate the child's learning.

In addition, to promote the strengths children possess, they need to have the various groups purportedly serving children collaborate and coordinate their resources and delivery of services. The so-called "high risk" child is at risk because we let it be so--because so often we do nothing about risk factors that have been identified and at times even promote practices that put children in increasingly debilitating environments.

While we are endeavoring to identify those aspects a child needs when entering school, as well as the required measures for doing so, let us work equally hard on promoting those factors affecting the child's readiness. Let us support the total ecology of the child--providing necessary prenatal and postnatal care, family health, nutrition and social services, jobs for those able to work, adequate shelter for the homeless, appropriate child care facilities for working parents, and the encouragement of social networks for the alienated and the increasing number of families who no longer have kinship supports as our society becomes increasingly mobile and fragmented.

Let us provide sufficient resources for a greater number and variety of parent programs that are sensitive to cultural differences and build upon family strengths to assist many parents, especially the increasing number of teenage parents, who are not aware of the importance of this developmental period or the vital nature of their teaching roles.

Let us promote excellence in early childhood programs through increased training of caretakers who are knowledgeable of developmental patterns of growth, who work with the family for increased involvement and participation, who provide guidance, modeling and reinforcement for the role of the parent, who welcome the contribution of other community members in more than financial terms, who teach their children health promotion and prosocial skills, who foster communication skills in conjunction with other language skills, who focus upon cognitive processes and those components identified as important to later skills in reading and mathematics rather than upon the broad skills themselves, and who provide opportunity and encouragement for children's fantasy and creativity. Let us support programs that emphasize the maintenance of the young child's feelings of worth and curiosity, that encourage questioning and problem-solving strategies for both intellectural and social demands, that use various teaching strategies appropriate to children's different cognitive styles and temperament and diverse cultural backgrounds, that introduce children to the analysis of task and situational demands in order to recognize those behaviors that will be most effective in meeting them, that encourage children to question, to think and to care--for themselves, for others and for their environment.

We also need to learn from our past mistakes. To what extent do our assessment procedures measure the desired constructs? Have we made explicit our theoretical and methodological assumptions? Have we identified the extent of match between program goals and strategies and the variables being assessed and the procedures for doing so? And are we willing to train teachers adequately in assessment procedures and monitor their use as well as involving them from the beginning in what should be assessed? Are we going to ensure <u>informed</u> consent--of school staff, parents and children?

We hear frequent comments concerning the instability of the young child's behavior during this important transitional development period, their greater susceptability to situational factors, limited attention spans and so forth, but infrequently discuss school personnel's negative attitudes toward what is being assessed and how it is being assessed or the lack of children's preparation for such tests and their lack of "test wiseness".

No new measures can be valid without the necessary belief in their importance, understanding of their meaning, and training in their use. Teachers are more likely to support measures used

when they will facilitate instructional planning. An emphasis on learning processes rather than products is more likely to accomplish this.

Such caveats do not preclude, however, an emphasis on the positive use of measures as initial screening instruments to provide guidance for tailoring programs to meet children's needs as contrasted with their use in making placement decisions that may act as self-fulfilling prophecies. Early assessment can facilitate the provision of programs geared to the individual needs of children rather than those planned on the basis of ascribed needs of children according to various status characteristics.

Families, children and schools can and do change, with corresponding changes in the nature of their interactions, and such changes can be facilitative or harmful. Facilitating influences usually require continuing reinforcement to maintain their positive effects, however. I realize that in attempting to address this topic, I have primarily raised questions rather than provided answers. For me it has been a very stimulating and challenging experience because of the broad array of questions this important topic has generated. It also has made me optimistic about effecting improved quality in the education of our children. Optimistic because there is a sense of dissatisfaction with what we are currently doing and a desire to do better; a willingness to examine and critique traditional assumptions; a recognition of the breadth and complexity of the issues being addressed; and a perceived need for cooperation among disciplines and among practitioners, researchers and policy makers. We cannot do less for our children and their families.

Summary

Modes of Learning in Young Children

David Elkind
Tufts University

Young children learn differently than do older children and adults. It is necessary to undersand these modes of learning if the readiness issue is to be effectively addressed. This is true because readiness is not something which exists in the child but is rather the degree of match between the child's modes of learning and those required by the curriculum. Put differently young children are ready for programs adapted to their unique modes of learning but are not ready for programs of academic instruction. It needs to be recognized that we can make schools ready for children and do not have to wait until children are ready for school.

Fundamental and Manipulative Learning

The learning young children engage in is fundamental in the sense that it is acquired through direct contact with things. The young child has to learn to differentiate the input from his or her basic sensory apparatus, smells that are good and bad, textures which are smooth and rough, forms that are round and square, animals that fly, swim, run and climb. To be sure we can give children our cultural labels for these experiences, but the child would experience them even without the labels. In the same way all children in all cultures must acquire concepts of permanent objects, shapes and quantities.

Compare this kind of learning with learning skills such as reading or math and with learning subjects such as science or social studies which involve teaching children what other people have learned and conceptualized. Such learning is derived as opposed to the fundamental learning which dominates early childhood. The differences are relative rather than absolute to be sure. The terms we give children for fundamental experiences are part of language and cultural tradition and some of the experiences like television also derive from the culture. But the fact remains that there are some learnings which all children in all parts of the world must acquire as part of our animal heritage, that are necessary for survival and which are attained despite the cultural diversity of their labels.

The learning of young children is also manipulative in the sense that young children learn best through active encounters with things rather than through symbolic mediation. An extreme example might help to make the point. One can tell a blind person about color for example, but that person still will not have a good concept of color without having experienced it. A deaf person can be told about music but will not have a true

concept of music without the actual physical experience. In the same way, young children will not acquire a good sense of geometric forms, colors, tastes, animals, plants and so on without experiencing these directly.

Again there is clearly overlap between learning which is fundamental and manipulative and that which is symbolic and derived. Even young children will encounter and use terms for which they have no concrete reference but without true comprehension. I have a physicist friend who taught his daughter a number of complex physical formulas. He and she would walk down the halls at the University of Iowa physics building exchanging formulas to the amazement of students and faculty. But the girl clearly did not understand the formulas she was repeating.

Fundamental and manipulative learning is a necessary prerequisite to symbolic and derived learning.

Permeability

Young children do not learn in categories but "spreads." The appropriate learning experience for the young child is the project rather than the lesson. When young children are making a collage, for example, they are learning the different color names of the paper, the different shapes of the pieces thay are gluing together, they are measuring distances, learning the adhesive properties of paste and a bunch of new vocabulary words. But it would be incorrect to say that the child was learning language, science, math and geometry. These are categories that are foreign to the young child's thinking which are permeable rather than locked into categorical departments.

The permeability of young children's thinking is sometimes mistaken for distractibility which it is not. Young children learn from the whole situation, not from the more narrow and restricted focus of lesson plans and skill training directed towards the acquisition of specific attainments. If young children have trouble with lessons it is not that they are unable to "pay attention" but only that they are learning in a different manner from that presupposed by the lesson plan.

The Structural Imperative

The mental abilities of the young child are maturing at a rapid pace. During such periods of rapid mental growth, children spontaneously seek out the stimuli they need to nourish their growing mental abilities. It is a period during which intrinsic motivation is very much in evidence. Children just acquiring quantitative abilities, for example, will spontaneously count almost everything in sight. They are seeking out materials to nourish their budding mental abilities. Montessori recognized the power of the structural imperative during this age period and

created a whole complex of materials uniquely suited to providing children the nourishment they need to realize their emerging abilities. The "prepared environment" of the Montessori school is in essence an environment for the realization of the cultural imperative.

That is why direct instruction during this period of develpment can be harmful. Direct instruction imposes adult priorities and learning materials and ignores the mental nourishment needs of the child. Some children can meet these needs outside of the school setting but others may not be able to and may never fully realize their mental abilities to the full. It should be said that children do need guidance in nourishing their mental abilities. Montessori designed her materials so they could be self didactic. With other manipulative materials, the children can benefit from guidance from the teacher. But the guidance is designed to help the child learn from the materials, not from the teacher's lesson plan.

Play

Play at all levels of development is always a modification of reality in the service of the self. At different age levels, however, play serves different functions. In older children and adults play, in the form of games with rules, fosters social interaction, a sense of belonging and acceptance. In young children, however, play is largely individual and has a somewhat different function.

Young children do not yet have the "ego defense" mechanisms such as reaction formation, projection, rationalization that they will achieve later. Nonetheless they are still subject to many slights and attacks on their competence and self-esteem. Many young children hear the word "no" what seems like a hundred times a day. For the young child play is a transformation or reality in the service of the child's sense of self-esteem and self competence. A child playing a superhero is asserting his or her strength and power, a child playing house is asserting his or her competence to assume adult roles, a child painting is asserting his or her competence to represent experience in meaningful ways.

Unfortunately, the young child's play is often mistaken as opportunity for instruction. When a child is playing store a teacher might ask that the child assign prices to the cans and boxes being sold and make change with toy money. But the introduction of a math lesson can destroy the value of the play for the child who is attempting to assert his or her competence in playing adult roles by placing unnecessary and difficult barriers to the engagement in that play. The play of the young child is a stress relief mechanism which facilitates the child's other modes of learning by freeing the child's energies for productive work.

Summary

Psychometric and Policy Considerations in the Assessment of Readiness for School: A Summary

Lorrie A. Shepard
University of Colorado, Boulder

Should the Federal Government collect data about the Nation's 5-year-olds? Should we assess the readiness of young children for academic tasks or measure their development along several dimensions both cognitive and social? Would it be important to have large-scale, representative data about language development, concept formation, attention span, perceptual abilities, and even motor development in young children who are just beginning formal education? Would data of this type serve important functions such as provide information to design instruction for a range of abilities and skills, or provide a baseline for judging the progress of children when they reach fourth grade, or even serve as outcome measures for evaluating changes in preschool education?

In the complete paper, these questions are answered affirmatively and the important uses of early childhood data are elaborated. The technical problems associated with such an assessment are discussed. The primary focus of the paper, however, is on policy rather than technical issues. The Center for Education Statistics would unwittingly sanction an unfortunate national trend, if it called its assessment a measure of "readiness." Some current uses of readiness screening nationally are invalid and have negative social and educational consequences. The research base supporting this statement is outlined below.

The technical problems involved when assessing 5-year-olds are greater than with 9-year-olds, but are not insurmountable. Data collection should be conducted individually or in very small groups. Even if some children could manage group instructions and paper-and-pencil tasks, it is wrong to assume proficiency on the very skills one is trying to assess. Sampling problems arise because 5-year-olds cannot be located in schools; thus, a sampling strategy should be based on households rather than schools. Both the task sophistication and the sampling problem would be alleviated somewhat by testing 6-year-olds rather than 5-year-olds. However, moving the testing to first grade would shift the assessment toward academics and would contribute to the connotation that some children have already failed their first SATs.

In the paper, the "national obsession with readiness" is described. In several states and in countless school districts policy makers have instituted readiness screening programs for kindergarten or first grade. In many instances these tests are

intended to help the classroom teacher plan instruction during the first months of school. This type of readiness testing has been going on for decades and is very unlikely to have negative consequences. The concern arises with the many new cases where the purpose of the testing is to hold unready children out of school or to assign them to extra-year tracks. (Extra-year programs come in a variety of forms including developmental and pre-academic kindergartens, repeating kindergarten, transition classes, and pre-first grades.)

Shepard and Smith have conducted a series of studies on kindergarten retention, school readiness, and the birthdate effect on achievement in early grades. A theme identified from the research was the phenomenon of escalating curriculum. The academic demands of kindergarten and first grade are considerably higher than they were 20 years ago. Furthermore, the escalation is ongoing, with many teachers reporting that they feel a constant pressure to teach more from the next grade's curriculum.

The increasing demands of kindergarten and first grade have multiple causes. Kindergarten attendance has become more nearly universal; thus first grade teachers have begun to assume a common set of prerequisites. Likewise, Sesame Street has raised the norms for kindergarten learning. Researchers have noted the shift in kindergartens from socialization to academics; in turn, the academic emphasis of preschools is increasing.

Over the past 50 years entrance-age requirements have shifted, now requiring that children be older to start school. Often age cutoffs have been increased in response to evidence that the youngest children were not ready; but, inevitably a new group of "youngest" children is created whose performance then becomes inadequate.

In interviews with kindergarten teachers, two sources were identified for the day-to-day pressure to raise expectations: accountability in the higher grades and the demands of middle-class parents. Promotional gates at third grade or sixth grade are translated downward into fixed requirements for the beginning and end of first grade. Many middle-class parents visit school and convey that their only criterion for judging a teacher's effectiveness is her success in advancing their child's reading accomplishments. Other evidence of enriching experience and cognitive development is ignored.

The above may sound like a success story for higher standards. But escalating demands in the earliest grades have severe negative consequences. Many more children fail; more poignantly, many fail who would have in due course done quite well.

Readiness screening of individual pupils in local schools is in direct response to higher standards. Now it is necessary to

find unready children and remove them. Children must accommodate to the fixed expectations of the system rather than have instruction adapted to their needs.

Advocates for keeping children home, for kindergarten retention, and for extra-year programs believe strongly that they are acting in the best interests of unready children. They seek to protect less ready children from this inhospitable environment. However, they have not provided research evidence of program benefits and have ignored negative side-effects.

Holding less ready children out of school is indefensible as public policy. The burden of this policy falls most heavily on children from lower socio-economic backgrounds, the children who most need the opportunities of public education. Whether readiness measures are strictly pre-academic or measure more broadly defined developmental age, they are correlated with socio-economic status and with traditional measures of IQ. In fact, some are statistically indistinguishable from IQ tests.

Extra-year programs, especially transition classes between kindergarten and first grade, are enjoying great popularity. However, in several controlled studies, children who spent an extra year before first grade were no better off academically at the end of first grade than "potential first grade failures" who went directly on to first grade. Furthermore, these extra-year programs are perceived as failure and result in poorer self-esteem and poorer attitude toward school. Although most educators believe that repeating a grade is beneficial and does not carry a negative stigma, the great majority of children report feeling "bad" and "upset" about it. In one study children rated the stress of being retained just below losing a parent and going blind.

Ironically, retaining significant numbers of children in extra-year programs has the additional negative effect of further escalating the curriculum, because now teachers can teach to the older, more mature children.

There are alternatives to the problem of accelerated curriculum and negative placements. Programs which respond to individual differences can produce equivalent achievement gains without sorting children into demeaning tracks. But these programs are out of political favor.

In view of this national, accountability-driven interest in readiness, the Center for Education Statistics was encouraged to conduct a national assessment of young children guided by two principles: 1) the domains of assessment should be broadly defined and 2) the assessment should not be called a measure of "readiness." To broaden its conception of an early childhood assessment, researchers at CES should consider how the scope of the assessment would change if it were intended to measure the outcomes of childcare or preschool rather than only to predict school achievement. And, before pursuing the logistics of a

readiness assessment, the Center should more consciously examine the policy connotations in choosing between a Readiness Assessment and an Early Childhood Assessment.

Chapter 3

Summary of Discussions

This chapter summarizes the principal viewpoints and opinions expressed in the conference discussions. Obviously, the particular opinions selected for inclusion in this summary reflect the judgment of the editor.

It should also be noted that it is not possible to carry out a reporting task such as this without making at least some errors. The reader should therefore make allowance for the possibility that some speakers or conference participants were unintentionally misquoted. Apologies are hereby extended to any reader who sees his or her own statements reported here in a distorted form.

Parents' role

* There was some disagreement as to whether highly educated parents are more likely or less likely than less educated parents to agree to keeping their "unready" child out of school for a year.

* Too much stress is being placed on academic skills these days; more emphasis should be placed on encouraging the family to instill moral values.

Teachers' role

* The greatest obstacle to parents' getting more involved in their child's education is the attitude of teachers. Teachers often intimidate low income parents.

* Teachers' colleges today are remiss in not teaching the things that teachers must know to meet today's challenges.

Assessment instruments

* There was a brief but spirited discussion about whether boys and girls should have different curricula in view of the fact that far more boys than girls have learning disabilities or are unready in some other sense.

* Ms. Selden said that although the MacCarthy tests are used at her school to assess readiness, they have very little predictive value.

* Lorin Anderson said that most States throughout the Southeast already have readiness tests in use. "This conference is six years too late for most of the Southeast".

* There is a "boomlet" of spending on State designed readiness tests. Local districts could profit by guidance from the Federal Government on their use.

* Lorrie Shepard said that readiness screening of children at the local school districts is a direct response to escalating academic standards. This has the effect of eliminating children "who don't fit"--leaving the fast kids to be taught. She expressed her fears that CES is about to join the bandwagon.

* If State legislatures can be convinced that it is immoral to hold a certain class of kids out of school, this assessment fad will pass.

Assessment implication for CES

* A participant expressed her concern that large-scale census-like data may be collected which will lead directly to policy changes which may result in a "national curriculum".

* In responding to someone's question about the uses of assessment data, David Sweet said that assessment data collected by the Center would never be used to make decisions about individual students, but on the other hand aggregate data at the national level are very useful for addressing policy issues.

* In discussing the implications of assessment, Lorrie Shepard said that CES is "signing up", having endorsed the concept of readiness in the name of accountability to higher standards. The message is clear: If you can't keep up, you're not ready.

* A spirited discussion arose about whether academic standards were too lax in the 1950's and 1960's.

Chapter 4

Comments

This chapter consists of Part A and Part B:

Part A consists of Comments on a National Assessment of School Readiness by Lorin W. Anderson. This is the commissioned synthesizing paper prepared after the conference.

Part B consists of Comments, by David A. Sweet, Director, Education Outcomes Division, Center for Education Statistics.

Part A

Comments on a National Assessment of School Readiness

Lorin W. Anderson
University of South Carolina

In summarizing a conference on school readiness, it somehow seems appropriate to begin with a children's story. Having two boys, now seven and nine years old, I have spent a great deal of time during the nine years reading a variety of children's stories. One of my favorites is Herbert Hated Being Small. As the title clearly implies, Herbert, the male lead in the book, was troubled by his size. He was much smaller than his friends, even than his dog. After a while, he became so discouraged that he left home.

The story shifts to the female lead, a girl named Philomel who was called Phil for short. But Phil was anything but short. In fact, she was quite tall. She was much taller than her parents; about as tall as the trees. Like Herbert, Phil became discouraged and left home.

We next encounter Herbert and Phil on a long hill. Herbert is walking down, and Phil is walking up. They meet. Herbert, happy to see her, mentions that he never expected to meet anyone as small as himself. Virtually at the same time, Phil expresses her amazement at meeting someone as tall as she was. They are exactly the same height. The story closes with a memorable couplet: "Big or tall or short or fat, it all depends on where you're at."

Like our views of height, our perspectives on readiness also seem to depend a great deal on "where we're at." Parents and educators often have different views, with some middle-class parents apparently overpreparing their children for school. Teachers in a school with a strong academic emphasis in first grade have different perspectives from those in a school with more of a social interpersonal orientation. Developmental psychologists tend to have different conceptions of readiness from those held by psychometricians. Finally, education officials at federal, state, and local levels often see readiness somewhat differently.

All four participants in the conference have addressed the relativistic nature of school readiness. Selden, for example, has stated that "what we know is often informed by where we are," suggesting that the perceptions of readiness held by classroom teachers may be somewhat unique. Similarly, Shipman has contended that "we cannot simply ask what abilities does the child need upon entering school, but we must ask the question specific to context," suggesting that different levels or types of readiness may be needed by children to succeed in different schools. Shepard has raised a somewhat rhetorical question in

this regard: "Can the Federal Government engage in an innocent and agenda-free data collection effort and leave educational policy [concerning the definition and operationalization of readiness] to the states?" This question suggests that policy makers at the federal and state levels may differ in their views of what readiness is as well as how the results of readiness assessment may be interpreted and used. Finally, Elkind, in the title of his paper, raises the fundamental contextual question, "Readiness for What?"

A couple of years ago, Jerome Bruner (1985) wrote a short piece that in many ways summarizes these relativistic issues and concerns. In this piece, Bruner stated that our decisions about learning and learners are decisions

> about an ideal, about how we [conceive] what a learner <u>should</u> be in order to assure that a society of a particularly valued kind could be safeguarded. ... At the heart of the decision process there must be a value judgment about how the mind should be cultivated and to what ends. ... (I)t is possible to construct not only experimental studies but "real life" situations that make people (or pigeons, for that matter) look stupid or clever. ... [Thus], any model of learning is right or wrong for a given set of stipulated conditions, including the nature of the tasks one has in mind. ... What it amounts to, as I have already hinted, is treating all models of the learner as stipulative, and then inquiring into the conditions under which they may be effective or useful or comforting. (Bruner, 1985, p. 5, 8).

Bruner's statement makes one thing very clear as we consider a national assessment of school readiness. Our concerns for, and definitions of, readiness depend in large part on our individual or collective value orientations or belief systems. Our present concerns for readiness accept, in the words of Shepard (in these proceedings) that "a clear moral choice has been made. Children must accommodate to the fixed expectations of the system rather than adjusting the system to individual differences in children."

Because of the role of belief systems and educational contexts in determining readiness, the problem of defining and assessing readiness is both complex and difficult. In the discussion that follows, I will identify and discuss several questions that must be answered if a national assessment of readiness is to be possible. In those cases in which a great deal of consensus among the conference participants seems to exist, answers to the questions or methods of finding answers to the questions will be offered. Throughout the discussion the issue of whether such an assessment is <u>desirable</u> will be avoided.

The Nature of Assessment

Previously, I have defined educational assessment in the following manner.

> To assess a human characteristic simply means to gather meaningful information about that characteristic. Such information permits one to determine whether a person possesses a particular characteristic or how much of a particular characteristic a person possesses. (Anderson, 1981, p.6.)

Thus, an assessment of school readiness implies that we intend to collect meaningful information as to whether or not children are ready for school (that is, dichotomous information) or the extent to which children are ready for school (that is, continuous information).

In order to secure meaningful information about many human characteristics we employ a series of tasks (e.g., questions to answer, activities to perform, and problems to solve). The responses and reactions of people to the assigned tasks can provide us with information about characteristics as diverse as vocational interests, leadership qualities, and academic achievement. If responses and reactions to tasks are to provide us with meaningful information, however, the choice of tasks must be made carefully.

In general, three criteria can be used to aid in the choice of proper tasks. First, the tasks, when administered, should have a reasonable chance of yielding the desired information. Second, the tasks should be appropriate for those to whom they are assigned. Third, a sufficient number of tasks should be used so that we can trust (or rely on) the information gathered. In combination, these criteria enhance the validity and reliability of the information collected.

In order to make proper assessments, then, we need to have an understanding of: (1) the human characteristics to be assessed, (2) the humans to be assessed (e.g., children, adolescents, adults), and (3) the nature of the tasks that can be used to make the assessment in light of the humans being assessed. With respect to the assessment of school readiness, then we need a sufficient understanding of (1) what it means to be ready for school (2) the abilities and qualities of young children, and (3) the types of tasks that can be used to assess school readiness in young children.

The Technology of Assessment

Armed with this knowledge the attention of developers of assessment instruments can then turn to the technology of

instrument design. In order to design appropriate assessment instruments, four general questions must be considered. What tasks should be used? How and when should they be administered? How should the responses and reactions made to the tasks be interpreted? How are the assessment data to be used? In the following sections each of these questions will be considered within the context of the assessment of school readiness.

What Tasks?

The conference participants agree on a number of issues concerning the nature of the tasks to include in an assessment of school readiness. They agree, for example, that the tasks should be broadly, rather than narrowly, defined. (See, for example, the Shepard paper). They also agree that there is a definite need to go beyond academic tasks. (See, for example, the Selden and Shipman papers).

The major disagreements lie in the following areas. First, is the purpose of the tasks to find out what demands children can't meet or what demands they can meet? If we choose all of our tasks from an analysis of the world of first grade, we are going to learn a great deal about the tasks young children cannot perform. This issue is particularly important in light of the way that the NAEP data are typically reported in the popular press. We never hear how many children can write; we hear how many children cannot write. If we engage in a national readiness assessment, the data reported are likely to be the number of children that are not ready for school, not the number that are ready.

As a consequence, we need to select some tasks that we suspect or believe that all or virtually all children can accomplish. Some balance between the developmental abilities studied by psychologists such as Elkind and the task demands of typical first grade classrooms such as those mentioned by Selden and Shipman is necessary if the readiness assessment is to be most beneficial. In addition, the tasks should represent a fairly broad range of difficulty so that 1) the readiness of all students will be assessed validly, and 2) variations in the extent of readiness possessed by students can be determined reliably.

It should be pointed out that difficulty here is defined somewhat differently from the traditional psychometric definition. Psychometrically speaking, the difficulty of a task is defined in terms of the proportion of children or students who perform the task correctly. Tasks performed by a greater proportion of students are easier that those performed by a smaller proportion of students. Notice that this definition of difficulty tells us more about the tasks than the students.

As used in this discussion, difficulty refers to the discrepancy between the demands of the tasks and the ability of the child to meet or exceed those demands. The greater the discrepancy between the task demands and the child's ability to comply with those demands, the more difficult the task. Notice that this definition tells us more about the students than the tasks, but also implies that we know a great deal about the tasks beforehand.

This definition of difficulty has several important implications. First, the definition implies that there are very difficult and very easy tasks for 3-year-olds and there are very difficult and very easy tasks for 17-year-olds. The more traditional psychometric view of difficulty would suggest that all 17-year-old tasks are more difficult than all 3-year-old tasks. Second, we learn the most about people when the task demands match their current ability and achievement levels. If the tasks are too easy, we learn little. We may learn that the people have greater ability or achievement that the tasks demand, but we do not know how much more ability or achievement they have. Would the next harder task "stump" them, or would they be able to conquer the next 100 more difficult tasks? Using this same reasoning, we can see that we also learn little when the tasks are too difficult.

A second area of disagreement among the conference participants (and one alluded to in the earlier discussion) concerns the primary sources of the tasks to be included in a national assessment. In general, two sources of tasks were suggested. First, the rich literature on child development can be examined. Throughout this literature tasks used in child development research are described and illustrated. Many of the tasks, typically referred to as Piagetian tasks, have a grounding in a sound, well developed theoretical framework. Elkind speaks to this literature in his paper.

Second, first grade teachers can be asked about their conception of school readiness. Specifically, can they be asked to indicate the social, behavioral, and academic expectations they hold for children entering first grade? Once these expectations have been identified, tasks can be identified which will provide information as to how well children in general meet or exceed these expectations. As Shipman indicates in her paper this approach was used by Bettye Caldwell and her colleagues in developing the Preschool Inventory.

I would like to suggest a third source of tasks. Recent studies of first grade classrooms (e.g., Anderson, 1984; Barr and Dreeben, 1983; Dyson, 1985) can be perused for the purpose of identifying the tasks children are assigned and encounter in their classrooms on a fairly regular basis. For example, one common task is copying. Students copy words and sentences from chalkboards, and trace letters and words in workbooks. Although

an apparently simple task, Dyson's (1985) research suggests that children lacking in basic language concepts (e.g., words) have much difficulty with it.

These studies suggest that the actual academic demands of first grade are finite and somewhat minimal. First grade reading, for example, involves learning the names and sounds of 26 letters and various combinations thereof, and the development of a 500 to 600 sight word vocabulary. First grade arithmetic, on the other hand, includes counting, understanding the concept of number, and memorizing the addition and subtraction facts of single digit numbers.

Rather than academic demands, then, the primary demands on first grade children seem to be social and behavioral in nature; demands pertaining to what Green (1984) refers to as learning to "do school." With their enrollment in formal schooling, these children either must be able to, or quickly learn to:

1. pay attention when asked (as opposed to when they want to do so);

2. cooperate with teachers and peers (including mastering such seemingly simple tasks as taking turns during reading or discussion groups);

3. concentrate on instructional materials (e.g., primers, workbooks, worksheets) for fairly lengthy periods of time;

4. see school as an important place--a place not only to "do as you're told," "be quiet," "not fight," and "finish your paper"--but a place to do and learn new and enjoyable things, and meet other children (as Shipman points out in her paper);

5. be self-confident and tolerant of frustration so they will persevere (rather than "quit") when faced with difficulties, errors, and mistakes.

The validity and reliability of a national assessment will likely be enhanced if tasks derived from all three sources are included.

The readiness assessment can be conducted while students are at home, in preschool, in kindergarten, when students turn five years old, or at the beginning of first grade. The tasks can be presented by a parent, a familiar teacher, a new teacher, or a stranger. With older children the timing of the assessment and the person responsible for conducting the assessment may not be an issue. In considering the development of a readiness assessment, however, issues as to "when" and "how" the assessment is to be conducted should be paramount.

Several recommendations can be offered in this regard. First, the tasks must be individually administered. (See, for

example, Shepard's paper). As a consequence, the assessment will be costly. Second, the tasks must be administered in such a way that children can respond by "pointing", "acting," "doing," or "manipulating." (See, for example, Elkind's paper). Third, the tasks must be administered by someone who can "bring out the best" in the children; someone who is qualified and properly trained, who "knows" children and can relate to them. Fourth, readiness assessment should be ongoing, rather than a "one-shot" event. In this way, the development of readiness and/or changes in the proportion of children deemed "ready" at various ages can be monitored and examined.

Interpreting Responses and Reactions

One of the most frequent ways of summarizing children's responses and reactions to a series of tasks is to count the number of their correct responses and reactions. This approach results in the computation of a total score indicative of overall student readiness. Once such scores have been computed, the number of students at various degrees of readiness or the number of students designated as "ready for school" can be determined.

Inherent in this description of a fairly typical practice are at least two issues that must be resolved prior to interpreting the responses and reactions collected during the readiness assessment. Is a total score sufficient for describing readiness, or are patterns of responses or profiles of subscores (e.g., attention, conservation, letter names) required? Should school readiness be reported in terms of degrees of readiness or in terms of whether or not students are ready for school?

The consensus among the conference participants seems to be that a total score is <u>not</u> sufficient for describing readiness. Rather, patterns of responses or profiles of subscores are needed. Selden's analysis of the readiness of Elizabeth, Michael, and Colin attests to the need to consider these patterns or profiles.

Similarly, conference participants seem to agree that school readiness, however defined, exists along a continuum. Selden, for example, asserts that "It is important to see readiness as a continuum. Few children are <u>completely</u> ready or unready." (emphasis mine). As a consequence, attempts to dichotomize this continuum into regions of "ready" or "not ready" will, by definition, be arbitrary. Attempts to form such dichotomous categories will be complicated further by the inclusion of patterns or subscores as suggested above.

From a completely different perspective, however, we are not really talking about the readiness of an individual student (e.g., Elizabeth, Michael, or Colin). Rather, within the framework of a national assessment we are talking about aggregating the results across groups of students; students

within particular states or geographic regions. Quite likely, the metric for reporting these readiness data will be the proportion of students "ready" and "not ready."

Some thought must be given to the curricular and programmatic implications of the data. Potentially useful programs for dealing with "not ready" students or for helping students to become increasingly "ready" must be developed or identified now. It will be too late when the test results began to roll in.

Using Readiness Assessments

The ways in which the data collected during a national assessment of school readiness are to be used represents the interaction of belief systems and value orientations, on the one hand, and the technology of assessment on the other. In general, data can be used for a variety of purposes. As Bruner has pointed out, data can paint people as being "stupid or clever." Thus, one should consider the motive underlying the assessment--that is, the purpose for gathering the data in the first place--in deciding how to best use the assessment data.

Unfortunately, many such motives are neither "pure" nor "pristine." Assessments are often the result of someone's need to show that "something is rotten in the state of Denmark" (or Colorado, Massachusetts, New Mexico, or South Carolina). Many potential uses of such data are neither positive nor helpful. Shepard, in her paper, clearly points out that two of the potential options for "non-ready" students (have them stay at home, or placing them in a "transitional year" program) are neither appropriate nor beneficial.

The consensus among conference participants on this issue seems fairly clear. First, assessment results should first and foremost be used as a barometer of readiness. That is, the results should describe the nature of readiness of children in general and children in particular subpopulations. Such descriptive information would be particularly useful in 1) determining what changes, if any, should be made in current preschool, kindergarten, and primary school programs if readiness for school is to be enhanced, and 2) permitting useful examinations of the impact of various programs (e.g., Head Start, Sesame Street) on children's readiness for school.

Second, assessment results should be used to understand students, rather than to sort and classify them. Once students are understood, appropriate educational conditions can be arranged for their continued growth and development. Thus, schools have some responsibility for developing readiness in students. They cannot simply expect students to be ready or not, or decide to deal only with "ready" students. We must remember that once students are classified, they tend to remain classified and labeled for the rest of their academic lives.

We must be aware that independent of the expressed purpose of a national assessment of school readiness and regardless of the care taken to design and implement such an assessment, the results of the assessment will be used for a variety of decisions. There is a tendency in this country to reduce test results to a single score (regardless of the complexity of the results) to facilitate ease of decision-making. As a consequence, the need for multi-trait, multi-method approaches to readiness assessment mentioned by Shipman in her paper is not obvious to many, and would likely be rejected by some on the grounds that such approaches would provide too much data.

Discussion

As expected, several issues and concerns do not fit neatly into my organizational scheme. I would like to conclude by addressing briefly four such issues and concerns. First, the reason for designing and conducting a national readiness assessment and the purposes to be served by such an assessment must be made explicit as soon as possible. Such explicitness will not eliminate misperceptions and misuse, but can reduce them somewhat if done promptly and appropriately.

Second, we in the assessment enterprise must emphasize the tasks children <u>can</u> perform as well as those they <u>can't</u> perform. We must do our best to guard against headlines that indicate "One-third of U.S. Students Cannot Complete Job Application Forms." Emphasizing that two-thirds of our students can complete rather complex, somewhat obtuse forms is more useful and worthwhile. A large number of adults confronting many of the existing forms (including the new, but soon-to-be-revised W-4 Form) would probably emphathize with students if the emphasis were thus placed.

Third, we need to discuss the responsibilities of schools for enhancing the readiness of students, rather than assuming readiness as a prerequisite. (See, for example, Shepard's paper). If readiness is assumed as a prerequisite, certain subpopulations (e.g., the poor, the rural, the minority) will be disproportionally represented in the "non-ready" group. Many of the demands pertaining to children's ability of "do school," for example, can be taught and learned only during children's initial experiences with formal schooling. Furthermore, if readiness is expected, rather than fostered, we will end up with a readiness assessment that sorts students into categories, rather than a readiness assessment that becomes the basis for improved educational programs resulting in excellent learning and school success for all children.

Fourth, the Federal Government would do well to familiarize themselves with what state governments are already doing in this area. In several States readiness assessments already are in

place; in others, they are being contemplated or prepared. Quite obviously, the Federal Government does not intend to duplicate, nor does it wish to interfere with, the efforts already in place in the States.

Few question the importance of school readiness in children's overall success in school. The questions that have been raised in this paper are not meant to downplay this importance. Rather, they are intended to offer suggestions as to how assessment in this important area might be undertaken if the intended benefits of such an assessment are to be realized.

References

Anderson, L. M. (1984). The environment of instruction: The function of seatwork in a commercially developed curriculum. In G. G. Duffy, L. Roehler, and J. Mason (Eds.). Comprehension Instruction. New York: Longman.

Anderson, L. W. (1981). Assessing Affective Characteristics in the Schools. Boston: Allyn and Bacon.

Barr, R. and Dreeben, R. (1983). How Schools Work. Chicago: University of Chicago Press.

Bruner, J. (1985). Models of the learner. Educational Researcher, 14 (6), 5-8.

Dyson, A. H. (1985). Three emergent writers and the school curriculum: Copying and other myths. Elementary School Journal, 85, 497-512.

Green, J. (1984). Personal communication.

Part B

Comments

David A. Sweet, Director
Education Outcomes Division

The Early Childhood Assessment conference was convened to provide a forum to exchange information and discuss issues related to early childhood assessment. The Education Department wanted current information on what has been done in the assessment of children at the age when they typically enter school; what was found in these assessments and what use has been made of the findings; and what issues, problems, and opportunities there might be in collecting nationally representative information on children at this age level.

The people who presented papers and took part in discussion at the conference were quite articulate in describing (1) the potential value of early childhood assessment information, (2) the types of things that ought to be known about children entering school, and (3) related data needs on school-entry age and grade retention.

(1) The value of age appropriate assessment information on children making transition to school. The following early childhood assessment information needs and uses were identified.

- o Benchmark and trend information on skills, knowledge, and development deficiencies that children bring to school
  - so that the public can be informed about these trends and other concurrent, possibly associated, changes in society, families, demographics, and technologies
  - so that schools, districts and state agencies can initiate changes in curricular and support program where needed
  - so that teacher training programs can prepare teachers to work with the great diversity of students entering their classes;
- o Growth information on students who entered school with comparable levels and mixtures of skills, knowledge and deficiency patterns; and
- o School effectiveness information showing school level growth and associated school and classroom practices.

(2) What ought to be assessed? Pamela Selden, an experienced elementary school teacher presenting a paper at the conference, captured the consensus of the participants when she said that a child entering a typical school setting needs--good health; self confidence, self-help skills, both oral and aural understanding of the dominant culture's language; trust in adults and children who are strangers; social skills; ability to delay gratification; ability to attend; evidence of both short-term and relatively long-term memory; some understanding of cause-effect relationships; certain reading prerequisites such as decoding skills, and knowledge about reading, about the function and, to an extent, the form of print; enthusiasm for school and its activities; curiosity and the desire to learn and to reason; and the motivation to achieve and do well in an academic setting.

Others at the conference added to this list, asking for the type of information that would be picked up from eye examinations and sensory motor tests.

(3) School entry and grade retention. The Conference presenters argued that other contextual and ancillary information would need to be collected to improve interpretations of assessment information and understand the subsequent impact of assessment information on school policies, parent behaviors, etc. In particular, they wanted to know:

- o the patterns of school entry age requirements across the Nation and the trends in entry age, and
- o changes in school curriculum (usually academics appear earlier in the curriculum) and the impact of such changes on grade retention, student growth, etc.

The conference participants recommended that national assessment should be expanded to include early childhood assessment information but that the current procedures would have to be modified substantially because of the type of information to be collected and the age of the children. Academic skills play a much smaller role in the repetoire of skills needed for successful school entry than they do at higher grade levels.

The participants at the conference argued that we should use the more general term early childhood assessment for future work in this area rather than readiness assessment, because the latter term (readiness) has taken on a special meaning in recent years. Readiness assessment has come to mean that the purpose of the assessment activity is to decide what to do with a particular child being tested. Early childhood assessment, by contrast, retains its broader meaning of supplying information on the skills, knowledge, and developmental deficiencies of groups of

students. The information from an early childhood assessment would guide a variety of audiences but would not be used for student admission or placement decisions.

The participants called attention to a growing phenomenon that the Department's current data collection activities miss completely. Independent research reported by Dr. Lorrie Shepard and others show that many school districts and states are raising their age entry requirements, and making kindergarten and first grade more academic than in the past. The consequences for improved achievement performance have been largely unexamined. Other consequences such as increased numbers of students held out of school or retained in grade have been noted in some research, but have not been followed systematically at the national level. The participants recommended that data on these phenomena be collected on a routine basis.

The participants were told that the Education Department is in the process of reviewing its data collection activities. The discussion at the conference will serve as timely input for this review and will be shared with others as revised data collection plans are developed.

APPENDIX A

Readiness for School: A Teacher's Perspective

Pamela A. J. Selden
Sidwell Friends School
Washington, D.C.

I have learned many things from my many years as an educator and one of them is that what we know is often informed by where we are. Perspective makes a difference. I wonder if I could describe one of those "wheres" to you. It helps me think about readiness.

It's raining and the end of a long Friday afternoon; our first grade classroom floor is littered with bits of paper, glitter and glue. We haven't been able to go outside for three days. The children are tired, I am tired and we hurry to put the messy room somewhat in order, read a last chapter in a book, and rediscover all those lost mittens, hats, and important hidden belongings that must find their way home before the weekend. After the children leave I reflect on my classroom's life. Sometimes alone, sometimes with a colleague from across the hall, I wonder, "Has it been a good week?" "How are we progressing together as a class, and individually?" I scurry around the classroom, gathering up materials and preparing lessons that I hope will help excite and engage children because Monday mornings come up very quickly in this exhausting and most rewarding profession.

Often I wonder why teaching isn't that much easier after almost twenty years? Why don't I have more answers? Why can't I be more efficient? When alone during these reflective times, (actually I am never alone, because as a teacher, the ghosts of 24-25 children are always with me) I find myself focusing upon a number of the children who have just left the room or about whom I especially worry.

I ask myself, "Why are we doing this? This isn't working. How on earth did this child get here and how will she fare next year? Why are we pushing so hard? This child needs more time. This child just isn't ready."

Readiness, then, for school, for formal learning becomes an important issue as I think about my classromm life. It's an issue that I think about daily. It is an issue that almost every pre-school, kindergarten and first grade teacher faces throughout the year. And because the same child who may be very ready or unready for school the first year may continue in this manner as he moves through the grades, readiness for school can affect the child and the school for years to come.

It is a challenging task for the average teacher to instruct and nurture 25 to 30 wiggly and "ready" first graders. The task

can become overwhelming for the school, the teacher and other students in the class when several children are simply not yet ready for the ongoing learning program.

I have thought long and hard about readiness and there seem to be many more important questions available than there are answers. What does being ready for school mean? How can we best identify and assess who is, or is not, ready for school? How important is readiness? How do children who are ready get ready and how do children who are not yet ready become so? How does readiness at the pre-school, kindergarten and first grade level relate to future school success? These are questions that are at once technical, pedagogical and ethical. Our tentative answers must respond to all these issues.

My observations and conclusions are necessarily rooted in craft knowledge developed by 20 years in the classroom. My own "longitudinal studies", conducted on a daily basis, have included over 550 "subjects."

Assessment of readiness for school seems to me a complex yet important undertaking due in large measure to the nature of the individuals in question. While the variety and diversity found among an average group of adults is astonishing, it cannot compare to the great variety of developmental levels found in an average group of 6-year-olds.

First graders are somewhat like their teeth...in and out, changeable, varied and often uneven. This realization has been brought home to me this year, as I now teach second and third graders after being a first grade teacher for 10 years. It has been a valuable time for taking stock. What is different and what remains the same? What role does, did, readiness play? Not once this year has someone tugged at my arm and inadvertently called me "Mom", an almost daily occurence last year. The first day of school was calm, no tears. Most children knew what to expect, what this schooling place was about and how it was different from home. Questions and concerns that might seem trivial, easily dealt with, even humorous to an adult or second grader ("What about those big kids who will pick on me on the way home?" "How can I manage these buttons by myself in the bathroom?" "Will I learn to read this week?") are of very real and time consuming importance to the average kindergarten-first grade student and teacher.

The children in my second-third grade class continue to present me with academic, social and developmental variations--and there are certainly behavior and discipline concerns. Yet I am struck by factors that greatly alter our time together. These children have all been in a formal school learning situation for a year or more. In this second-third classroom, every child can read and write something--albeit at very different levels. We are off and running.

In the kindergarten-first grade classroom, even when "homogeneously" grouped, there will be toothed and toothless smiles. The teacher is presented with a remarkable range of differences. There is the child who is so physically coordinated that she has mastered riding that big two-wheeler and the child who is just learning how to skip. There is the child-author who proudly shares his first stories and the child who is learning how to form the letters in her first name. Several children read fluently on a third grade level and several others do not yet recognize all the letters of the alphabet or attach sounds to these symbols. Some children are eager to learn to read and others, like one child recently, declare emphatically, "I don't know how but that's O.K. because I don't want to anyhow--no way!" Which of these children are ready for formal schooling? In a sense the answer to this question relates to being a pre-schooler in America today.

I don't think it is that easy to be a 5- or 6-year-old. Our society expects much from its beginning students. Once the child enters the formal school setting, they encounter a different, changing and accelerating set of expectations. No longer babies to be cooed at in supermarket carts, many 5- and 6-year-olds are expected to grow up quickly. We can see this in the adult-styled clothing for children, in "Rambo" type war toys and in high pressure organized sports activities. It is in school, in kindergarten or first grade that the proverbial buck stops. Most second grade curriculums expect children to be reading and writing. Children, parents and, I can assure you, teachers feel the pressure--"Will Suzie read?" We need to remember that this question occurs in a new social and institutional context.

For the young child there is so much to master in a relatively short time. (Just consider the different physical spaces and smells. Do you remember those unique and different school smells? To me, they are as much a part of schooling as are books and recess). One capable, enthusiastic "together" 6-year-old boy who enjoys learning carries in his backpack (as do a number of his buddies) two small, well loved "pound puppies." When asked whether his teacher knows the puppies are in school despite a "no-toy" rule, he responds, "Oh, no she doesn't. I just know they are there with me. They help me get through my day." Institutional pressures start early.

As a teacher, I feel that our rapidly changing society profoundly impacts the classroom. TV commercials seem to have become much more familiar to youngsters than nursery rhymes or fairy tales. When I began teaching, there were few single parents and fewer mothers who held full time jobs outside the home. These changes impact our current school life. For example, a recent field trip was cancelled because our classroom budget couldn't handle a school bus rental and there were too few parent drivers to take the children from school. The potential parent drivers just couldn't leave their jobs. Twenty years ago, no one had a home computer, video entertainment center or car phone. Even sneakers were just sneakers.

Once a child enters the formal school system at the kindergarten or first grade level, and is moving upstream, it is difficult to stop and say, "Wait, this child isn't ready; this child needs more time." Perhaps time to grow physically, time to grow socially, to explore, to build with blocks, to learn specific academic readiness skills, to practice speaking in sentences. Time to develop large and small motor skills or to learn how to share and live with other children and adults in a school setting. Once started, however, there is little time to get ready to start.

Often this child's progress is not viewed in terms of needing time to grow ready in one or more areas, but in terms of failure. He or she can't or won't. "Jessie still doesn't know the alphabet or her sounds." "That Ben simply can't or won't sit still for even five minutes." "Eduardo can't hold a pencil." Slowing down, stopping, going back become not making it--and the child, parents and other children all know it. Even when asked to repeat another year, especially at the first grade level, the child may not necessarily have the experiences that promote readiness.

Beginnings and preparations are important in almost any endeavor. They are especially important in school. The increased challenges and expectations the child faces are all more reasons for children to be ready before they begin. What does being ready mean? What do teachers look for in the classroom and tell parents at conference time? These are serious questions in my own professional life and the following list includes some of the guidelines that I found useful in talking with parents and colleagues.

1) Is the child ready to look outwards? That is, is he or she ready to expand horizons beyond immediate self and family to the wider world and the new, more formal, learning experience?

2) In most school settings, learning takes place in a group context. Is the child ready to be a group member; to share, to compromise, to function and learn in a group?

3) Is the child able and open to trust others? To form relationships with other children and teachers? It can be difficult to take an active part in learning if you feel isolated, without friends, left out.

4) Does the child demonstrate the beginnings of responsibility for self and belongings? Does he or she show a measure of independence and inner self control? Is he or she becoming self-directed? For example, can the child independently complete a simple one page work sheet? Or a puzzle?

5) Does the child have an adequate attention span? That is, the ability to focus, to concentrate and to remain with a task or activity for approximately 15 minutes. Formal schooling requires some concentrated efforts, some work, from most children as well as the ability on the part of the 5-, 6-, or 7-year-old to delay gratification. The ready student can tune into an agenda other than his own. Even the most interesting, dynamic, creative classroom is a far different cry from the action-packed cartoons that many children watch both before and after school. The classroom asks a child to wait, to listen, to follow directions and to interact with people and materials in an organized manner.

6) Is the child able to communicate and use language, able to think sequentially and organize thoughts in a connected way that makes sense?

7) Does the child show age appropriate large and small motor development, visual and auditory discrimination and memory?

8) Even though the child may not yet recognize the alphabet letters and sounds, the more important question is whether she or he recognizes the fact that these little squiggles on paper stand for something? Does the child hold the concept that the printed text is spoken language written down?

9) Most importantly, can the child invest in school and begin to comprehend what school is all about? Can he or she understand that they play an important part in the schooling process? Are they ready to join in a learning partnership with you? In other words, is the child available for learning?

10) Lastly, it can be difficult or impossible to begin to learn in school if you are hungry, abused or emotionally disturbed, worried about chronic problems at home or have serious physical, learning or speech problems which might need special intervention. Has society provided necessary social support?

This brief list is only a beginning. More readiness criteria may be found in school report cards, student evaluation forms and on standardized tests. We must attend to their findings while recognizing their limitations. Assessment may still be more of an art than a science. And it may be easier to do when the child represents an extreme case. That is, it is easy to assess when a child is very ready or is very unready. Elizabeth as a first grader comes to my mind. She was independent, academically prepared and able, socially mature, self-motivated and physically large for her age. She was, in a word, ready.

Michael, on the other hand, had never attended a preschool program and had never left his parents. He was very fearful. He refused to leave my side for many months and rarely spoke to other children. Making friends, opening his own milk carton, learning to slide down a slide were exciting accomplishments for Michael. Although very bright, he clearly needed more time before tackling a first-grade classroom.

Children like Colin are more difficult to assess. A bright, imaginative boy with a sense of fun, Colin was liked by his friends. He possessed good academic readiness skills and tested well on readiness evaluations. Yet in the classroom Colin seemed young and uninvolved. He worked very slowly and often appeared to be day dreaming. We always felt we were pushing Colin to focus when he just wasn't there yet. Both Michael and Colin are boys. When I think about my "longitudinal study" it appears that many more boys than girls seem to have needed that extra time at the early grade levels. Perhaps we need to consider these social differences as we consider the complexity of readiness.

Readiness tests are important tools to help us identify areas of strength and weakness and to enable teachers to help children with special needs. However it is important to see readiness as a continuum. Few children are completely ready or unready. Readiness should further be seen as a combination or constellation of many ingredients. They are ingredients that act alone and in consort. It is in their interactions that we find our students.

Any kindergarten teacher can recall a "Chris" who scored poorly on a readiness evaluation and who constantly entreated, "Can't we go outside yet? or "When can I build with blocks?" Chris had very poor small motor skills and writing was a laborious chore. He was often confused about where to begin to work on a page. Teachers agreed that Chris would benefit from more time and readiness experiences. However Chris, with a sense of humor and a love of language, was determined to learn to read. Chris worked hard, we worked hard and, very importantly, he had lots of parental support. He is now a happy second grader. By the way, he reads and his handwriting is slowly improving.

Much can happen in a school year for a child. Every year, children who had seemed very unready in September or December begin to blossom in February or even May. As readiness is a <u>continuous process</u>, so too is learning to read, write, think mathematically and esthetically, and to adjust to formal schooling.

Because children are so varied and readiness is composed of multiple ingredients, no single factor should be used to determine readiness. We need to look carefully at readiness test scores if they are available, observe the child in the classroom, consider academic curriculum expectations, the child's social and emotional development and parental input. Perhaps equally as important but far more difficult to measure, we need to seriously

consider the qualities of curiosity, determination and motivation. It is the interaction of these various competencies that accounts for what I would call readiness.

The need for readiness in one or two areas can often be overcome by a year of growth, careful systematic teaching and supportive help. If a child is unready on several fronts, it is time to wait--to wait and to give time and the special help needed.

Teachers all carry memories of special children with whom we have shared classrooms. Children who enriched our lives or made us miserable. Hermes was both. Living in East Harlem in New York City, Hermes was enrolled in a summer head start readiness program. He was feisty, bright, verbal and very artistic 5-year-old. Hermes never sat still for meals, for stories or even for his beloved art projects. He also never stopped talking.

He told me he wanted to be a fireman and asked that we please visit a fire station. One day, on a trip through the neighborhood, Hermes spotted a big red fire truck stopped at a light. Hermes was gone in a flash! As the engine pulled away, summoned by a sudden call, Hermes proudly waved good-bye to his classmates and his astonished teacher. With his determination and talents, I was sure that Hermes was ready for school life. I am not so sure, however, that school was ready for him.

In summary, then, readiness speaks to beginnings and the beginnings of school are like no others. Classrooms are scrubbed and curricula is readied. Children are excited and eager to discover their power and potential as learners. We owe them our best assessments. We must ask not only are children ready for schools--but are schools ready for children? We need to be ready to carefully assess and provide programs to meet their needs. Further, we need to realize that readiness is a quality of both persons and institutions and I am pleased to have been able to share a perspective on readiness from what some have called the educational "trenches."

Basic Abilities Needed As a Precondition for School

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When I asked myself the question, What basic abilities do children need as preconditions for school?, I immediately found myself asking a parallel question, What abilities do we adults need to provide these children the environments that will nurture and enhance their development? As the following comments will show, I continue to vacillate between these questions as I view their answers to be interdependent.

Development is an interactive process. Thus, those abilities perceived in the present are the result of innumerable complex interactions between the individual and the many environments in which he/she became engaged. The child development literature repeatedly indicates that the period between birth and five years of age is marked by intense growth in the children's cognitive (as well as other) functions and this growth occurs as a result of the children's interactions with their environment, both physical and social. For the young child, the home environment is especially important, as we view the family as the child's primary educator. And research has shown us that the home environment is a complex system of dynamic reciprocal interactions among household members that gross proxy variables such as socioeconomic status (and its myriad noninterchangeable indices), race, ethnicity, and sex do little to explain. Instead, we need to examine the interrelationships of the various status, situational and process variables comprising the home environment, note their interactions with the broader macroenvironment and then attempt to understand their varying influence on various aspects of the child's development.

Similarly, we cannot simply ask what abilities does the child need upon entering school, but instead must ask the question specific to the context. What school, with what external and internal environmental characteristics, with what administrative and teaching personnel, with what curricula and modes of instruction, and with what diversity of students? We all know from the literature and from our own personal experiences about the child who succeeds with one teacher, but does poorly with another; who is ranked high in one subject area, but low in another (often confounded by teacher and peer variation); who performs well according to one method of assessment but poorly on another; or whose move to another school may facilitate or interfere with performance. In one study I conducted, children in a suburban district were assigned to a special class as deficient in reading skills, although they were performing at grade level on standardized reading achievement tests and were at least one grade level above those students of comparable age assigned to regular classes in an inner-city school. I must assume, therefore, that we are asking the question with regard to an ideal situation that we are asking

"What must the child bring to a school setting that is geared to provide the varied resources required to build upon these abilities, to foster continued growth in those areas society has agreed are essential school tasks?"

The question being addressed also requires that we know what is required for development of a contributing adult member of our society; that we know how and when to assess these aspects at various developmental levels and for the diverse cultural backgrounds of the children that attend our schools; and that if we can identify these abilities we know how to support and facilitate their growth and have available the procedures that can effect positive changes in those children who are not at a predetermined desired entry level.

Thus not only have we asked a question apparently context free (and thereby to a large extent I believe unanswerable), but we also have asked an apparently very limited one. First, let us be explicit in stating that the word "ability" in no way restricts us to the cognitive domain; unfortunately, too many of our colleagues have done that and then compounded the error by limiting the range of cognitive behaviors examined to broad academic skills. But even with that caution, the word "ability" is too restrictive. When we ask instead, What do children need when they enter school?, we must include other personality dimensions such as attitudes, interests and cognitive styles as well as attributes of physical health and nutritional status. (It should be noted that such a statement would be in agreement with Wechsler's (1950) broad definition of intelligence as "the overall capacity of an individual to understand and cope with his world, not only to learn, abstract, and profit from experience, but to adjust and achieve" (pp. 78-83).) Any particular aspect of individual functioning must be evaluated in the context of other aspects of the developing organism as well as the environmental conditions in which the organism is behaving. For example, development of affective and intellective behaviors are closely intertwined and knowledge of behaviors in one domain aids interpretation in the other whether for understanding responses to the tester or to teachers and peers in the classroom. Similarly, intellectual and motivational correlates of variation in the child's health and physical status are frequently observed. Also, growth in one domain often serves as a precursor to growth in another, with development in one area proceeding in seemingly irregular spurts and inappropriately assessed by traditional linear analytic methods. Thus, not only must these other domains be included because they are an integral part of any performance measure we use, but because they comprise important areas of readiness for school to be a facilitative environment.

As you can see, I had a great deal of difficulty with this topic. But I found the experience stimulating and rewarding. Instead of rereading journal articles and franticly skimming the most recent issues in various fields (my customary practice) I decided to reflect upon that which I have read and especially

upon those experiences I knew most about from the research I and close colleagues have conducted over the past 20 years. Consequently, I struggled trying to find something worthwhile to say that had not been said many times before.

In the 1960's the Head Start administration asked this question and one step, as important today as was evidenced by the previous speaker as it was then, was to ask teachers what they expected of children entering their classes (in this case, kindergarten). The result was the development of The Preschool Inventory by Bettye Caldwell and her colleagues. The test assesses such skills as the child's ability to give his or her name on demand, to identify body parts, to follow multi-step directions, to explain the meaning of common terms such as breakfast, to demonstrate understanding of numerical concepts such as first and last, recognize primary colors, and draw simple geometric forms. For children ages 3 through 5, the test has shown high internal consistency and test-retest reliability for children from diverse socioeconomic, racial and ethnic backgrounds and from various geographic settings. Also, not only do children show increased performance with age, but well-planned preschool programs consistently have facilitated this growth.

But today I believe we are asking for more than achievement of these preacademic skills. But what? The first thoughts I had when reviewing the question posed to me were as follows. For children to benefit from their school experiences they need to have been able to have a good night's rest--not to have been kept awake by a shelter with inadequate heat or by the crowding of others sharing their bed, or by the loud shouting of adults who have drunk too much or were "high" on drugs or were angrily attacking each other out of personal anxieties and frustrations from their past experiences or from the present stresses of a society that demands much and gives too little--a society that accepts a certain level unemployment figure as reasonable and that has a rising number of homeless women and children. Children need to be free of physical and emotional pain from physical and/or sexual abuse; they need to be not suffering from untreated illness or lack of sufficient food; they need to have had experiences that enable them to feel trust among strangers, to perceive adults as resources and other children as potential friends; they need to be inquisitive and curious about the world; and last, but certainly not least, children need to have learned to perceive school as a place to value and to enjoy, to view school as an exciting setting where new understandings and behaviors are learned.

We also know that teachers are not receptive to those children who are unable to close their coats, tie their shoe laces or take care of other personal needs. We know that those children who for whatever reason will not share materials with other children, will not join group activities, verbally and/or physically assault other children or adults, or who generally are

uncooperative with specific class and general institutional demands will have difficulty benefiting from what the school has to offer.

We know that children may vary greatly in their level of academic skills and yet remain with their age group because usually it is due to behavior problems that they are assigned to "special" classes. We also know that the highly distractable or active child within a nonadaptive environment will not be "ready"--nor will the recent immigrant child whose behaviors as well as language are not understood by the school personnel with whom he or she interacts.

Thus I see the following as needed by the child entering the typical school setting--good health; self-confidence; self-help skills; both oral and aural understanding of the dominant culture's language; trust in adults and children who are strangers; social skills; ability to delay gratification; ability to attend; evidence of both short-term and relatively long-term memory (a reflection in part of developed distancing strategies); some understanding of cause-effect relationships; certain reading prerequisites such as decoding skills, and knowledge ~about~ reading, about the function and, to an extent, the form of print; enthusiasm for school and its activities; curiosity and the desire to learn and to reason; and the motivation to achieve and do well in an academic setting. Such a list is very similar to the six areas of interdependent functioning Karnes (1971) considered critical to cognitive development more than 15 years ago: self concept, motivation, verbal behavior, language, intellectual functioning and physical fitness.

But how are these characteristics attained prior to school entry? I was delighted to see that one important segment of the stakeholder population was included in this conference--the teacher. If we assume that there are necessary preconditions, then what responsibilities do we have for enabling them to be met? And to what extent do these reponsibilities vary depending upon whether we are discussing kindergarten or first grade? Experienced teachers quickly assess who is ready for their classroom and who is not--who will be successful according to whatever criteria are used and who will not. Children to be successful must know and be assisted in achieving what is expected of them. But I hope there will be future meetings where two equally important stakeholder groups are represented--parents and children.

Even within restricted samples of economically disadvantaged families, differences in parental education level, physical and psychological resources in the home, encouragement and involvement in school-related tasks, achievement expectations, use of alternatives to physical punishment in response to children's misbehavior, knowledge and use of community resources, encouragement of verbalization, use of rationales, and modeling of literacy behaviors have been shown to be associated with the child's preschool and later school progress. As static group

categories are replaced by delineation of those behavioral and attitudinal variables reflecting processes which link social and cultural environments to the emerging capabilities of young children, meaningful SES relationships may be determined. The association between status, situational and process variables might be best understood as reflecting differences in opportunities provided for particular process variables to emerge. Family process variables are thus considered as the underlying mechanisms by which child outcome differences associated with family status characteristics are created and maintained. As Hess and his colleagues (1982) have suggested, research is needed on further delineation of family process variables and their relationships to those specific elements being identified as components of early reading and mathematical skills.

Due to programs such as Head Start, parent involvement is now a common goal when discussing school programs; but it is not yet a common practice. Of course, there are many excellent programs working with parents to assist them in becoming more actively involved in their child's education, that have delineated the "hidden curriculum" of the home, and that have supported family efforts in becoming more effective in their actions in various community and social institutions such as the school--programs that have learned to build upon the strengths the family already possess. Similarly, many schools have established model home-school partnerships. But overall these are the exception.

Research has shown the long-term benefits of efforts enhancing the role of the family as educator and of home-school partnerships in which the home both supplements and complements the school environment--benefits for the whole family as well as for the particular children being studied. But in many, too many places, both parents and school personnel are afraid, untrained, and lack the support necessary to become partners. Past histories work against the process. Most poor, and minority families in particular, have only been contacted by school personnel when there is a problem; most colleges of education do not include working with parents as part of teacher training. And where are the tangible rewards from those salient to the individuals involved? Recently, Montalvo (1984) commented, "...some schools seemed too quick to accept a perception that Hispanic and minority parents are too busy, too overworked, too uncomfortable, or too intimidated to participate without asking how the school can become less structured and less formal and more consistent with the lifestyle of 'busy, overworked, uncomfortable or intimidated' parents (p.72)." Fortunately, there is the growing recognition that decreasing discontinuities between home and school environments can facilitate the child's learning.

We also will benefit from examining children's perceptions. In our research we have found that first-graders when asked can quickly tell you what they think is important to be able to do

when a child enters school (specifically, when asked what they would tell a younger brother or sister)--"to do as you're told," "to be quiet," "not fight," "finish your paper." A few said that "you meet some new kids." But out of approximately 1500 six and a half-year-olds, not one said anything about school being a place to learn, to ask questions, to discuss problems, or to feel good about themselves. Most echoed what their mothers had said three years earlier when asked what they would tell their children to prepare them for grade school. Those mothers who reported they would tell their children of the new and enjoyable things they would do and learn, the fun they would have with other children they would meet, and described strategies for overcoming their children's anxieties by becoming more familiar with the school beforehand had children who later evidenced higher level general cognitive abilities and academic skills. But those were a very small minority of respondents. A few more mothers mentioned teaching their children self-help skills. Most mothers, however, only said that they would tell their children "to obey the teacher," "be quiet," "don't fight," "be good." Although such behaviors may be prerequisites for learning, they certainly are not sufficient.

In addition, to promote the strengths children possess, they need to have the various groups purportedly serving children collaborate and coordinate their resources and delivery of services. Rather than fighting over a decreasing piece of the financial pie, education, social services and health groups need to work together for a larger share of that pie. In an earlier publication (Shipman, 1976) I presented case studies that showed the decline in children's school performance when personnel representing these agencies do not cooperate with each other or the family with the result that the talents of young children are left to wither away. But we have also seen the success that can be achieved when there is collaboration and when homes and schools complement and support each other. The so-called "high risk" child is at risk because we let it be so--because so often we do nothing about risk factors that have been identified and at times even promote practices that place children in increasingly debilitating environments.

While we are endeavoring to identify those aspects a child needs when entering school, as well as the required measures for doing so, let us work equally hard on promoting those factors affecting the child's readiness. Let us support the total ecology of the child--providing necessary prenatal and postnatal care, family health, nutrition and social services, jobs for those able to work, adequate shelter for the homeless, appropriate child care facilities for working parents, and the encouragement of social networks for the alienated and the increasing number of families who no longer have kinship supports as our society becomes increasingly mobile and fragmented.

Let us provide sufficient resources for a greater number and variety of parent programs that are sensitive to cultural differences and build upon family strengths to assist many

parents, especially the increasing number of teenage parents, who are not aware of the importance of this developmental period or the vital nature of their teaching roles. Let us promote excellence in early childhood programs through increased training of caretakers who are knowledgeable of developmental patterns of growth, who work with the family for increased involvement and participation, who provide guidance, modeling and reinforcement for the role of the parent, who welcome the contribution of other community members in more than financial terms, who teach their children health promotion and prosocial skills, who foster communication skills in conjunction with other language skills, who focus upon cognitive processes and those components identified as important to later skills in reading and mathematics rather than upon the broad skills themselves, and who provide opportunity and encouragement for children's fantasy and creativity. Let us support programs that emphasize the maintenance of the young child's feelings of worth and curiosity, that encourage questioning and problem-solving strategies for both intellectual and social demands, that use various teaching strategies appropriate to children's different cognitive styles and temperament and diverse cultural backgrounds, that introduce children to the analysis of task and situational demands in order to recognize those behaviors that will be most effective in meeting them, that encourage children to question, to think and to care--for themselves, for others and for their environment.

We also need to learn from our past mistakes. To what extent do our assessment procedures measure the desired constructs? Have we made explicit our theoretical and methodological assumptions? Have we identified the extent of match between program goals and strategies and the variables being assessed and the procedures for doing so? And are we willing to train teachers adequately in assessment procedures and monitor their use as well as involving them from the beginning in what should be assessed? Are we going to ensure informed consent--of school staff, parents and children? Yes, first graders are able to give informed consent. And are we going to provide timely and specific feedback to all concerned so that the effort is worthwhile?

The typical "standardized" achievement procedures used in kindergarten and first grade generally have received negative reviews. We hear frequent comments concerning the instability of the young child's behavior during this important transitional developmental period, their greater susceptability to situational factors, limited attention spans and so forth, but infrequently discuss school personnel's negative attitudes toward what is being assessed and how it is being assessed or the lack of children's preparation for such tests and inadequate "test wiseness". For some children, it is the first time that they have been asked to work independently on a work sheet, to not talk to their companions and share comments on the task, and to work at a prescribed speed. In primary, as in upper grades, so-called norms are often based only upon the performance of those the teacher thinks can meet at least some of the demands. The

child known to be far below the rest of the class is often sent on errands, while those known to be disruptive are diverted by various means. Also, at all grade levels the lack of standardized procedures is all too common. I have observed children administered all the subtests in one day despite test publishers' directions so as to "free up the rest of the testing period for what the class is really all about." I have observed parts of subtests deleted "because we have not studied that yet." More important, no records are kept of such deviations.

No new measures can be valid without the necessary belief in their importance, understanding of their meaning, and training in their use. Teachers are more likely to support measures used when they will facilitate instructional planning. An emphasis on learning processes rather than products is more likely to accomplish this. Thus we cannot just make tests easier to make them appropriate for a younger population; they must be adaptive to what we know about developmental stages and learning sequences. And multi-method, multi-trait assessment is not just a criterion to be met in research studies when we are attempting to obtain a more accurate and holistic understanding of the child. Such caveats do not preclude, however, an emphasis on the positive use of measures as initial screening instruments to provide guidance for tailoring programs to meet children's needs as contrasted with their use in making placement decisions that may act as self-fulfilling prophecies. Early assessment can facilitate the provision of programs geared to the individual needs of children rather than those planned on the basis of ascribed needs of children according to various status characteristics.

Also, let us keep in mind the findings from longitudinal studies of long-term effects of early home environments and various intervention programs. Interactions of individuals and the environments in which they function are dynamic; predictability of a child's achievement from early indices of the home environment should not be interpreted to mean that these predictors necessarily determine the child's achievement. Families, children and schools can and do change, with corresponding changes in the nature of their interactions, and such changes can be facilitative or harmful. Facilitating influences usually require continuing reinforcement to maintain their positive effects. For example, most youngsters in the ETS-Head Start Longitudinal Study (Shipman 1976) who attended Head Start evidenced increases in preacademic skills, task orientation, achievement motivation, and social skills relating to their peers and to other adults. Academic gains generally were not maintained, however, when the grade-school program apparently did not capitalize on children's acquired skills and motivation.

I realize that in attempting to address this topic I have primarily raised questions rather than provided answers. Nevertheless, for me it has been a very stimulating and challenging experience because of the broad array of questions

this important topic has generated. It also has made me optimistic about effecting improved quality in the education of our children. Optimistic because there is a sense of dissatisfaction with what we are currently doing and a desire to do better; a willingness to examine and critique traditional assumptions; a recognition of the breadth and complexity of the issues being addressed; and a perceived need for cooperation among disciplines and among practitioners, researchers and policy makers. We cannot do less for our children and their families. What a good way to start the new year.

REFERENCES

Hess, R.D., Holloway, S., Price, G.G., and Dickson, W.P. (1982). Family environments and the acquisition of reading skills: Toward a more precise analysis. In L.M. Laosa and I.E. Sigel (Eds.), Families as learning environments for children (pp.87-113). New York: Plenum Press.

Karnes, M.B.; Zehrback, R.R.; and Jones, G.R. (1971). The culturally disadvantaged student and guidance. Boston: Houghton Mifflin.

Montalvo, F. (1984). Making good schools from bad. In Make something happen: Hispanics and urban high school reform, Vols. I and II. New York: National Council on Secondary Education for Hispanics, Hispanic Policy Development Project.

Shipman, V. (1976). Disadvantaged children and their first school experiences, ETS-Head Start Longitudinal Study: Notable early characteristics of high and low achieving Black low-SES children (ETS Project Report No. 76-21). Princeton, NJ: Educational Testing Service.

Wechsler, D. (1950). Cognitive, connative and non-intellective intelligence. American Psychologist, 3, 78-83.

How Children Learn

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Infants and young children learn in quite different ways from older children and adolescents. Because this difference is not self-evident, a rough analogy may help to make the point. Consider the three major stages in building, and then living in, a house. During the first stage we are busy building the house, laying the foundation, putting up the walls, ceilings and so on. Once the house is fully complete, we can begin the second stage, decorating and furnishing; we can paint the walls, put in carpets drapes, furniture and so on. Once the furnishing and decorating is complete, or almost complete, we can move in and begin to use and enjoy the fruits of our labors. This is the third and last, or utilization, stage.

If we consider the child's mind as analogous to a house that he or she is going to live in, then the stages of development can be looked at as roughly analogous to the stages of building, and living in, a house. During the infancy and early childhood period, the child is, in effect, building his or her mental house. During this stage the child is laying the foundations and building the framework of his or her mind. During childhood, adolescence and early youth (as college education becomes more common) the child decorates and furnishes his or her mind with the skills, knowledge and values of formal primary and secondary education. Finally, during adulthood, the young person occupies and lives in the house which he or she has constructed.

Accordingly, during infancy and early childhood, the child's learning activities are different from what they will later be for the simple reason that the child's adaptive task is different. For the infant and young child, the prime task is to "construct" the major foundations of intelligence, the basic concepts and mental abilities which can later be decorated and furnished with the trappings of formal education. Our task as parents and early childhood educators is to provide the best possible working conditions and the best possible materials for children during this period when they are building the basic structures of their minds.

During childhood and adolescence, the stage of decorating and furnishing, the child's learning task is a different one. At school the child must "reconstruct" the skills, knowledge and values that have been created and discovered by other people. For example, reading and mathematics are skills that were created centuries ago. Learning what others have learned and passed on to us is what we do in school. Our tasks as parents and teachers during this period is to instruct young people in the most appropriate way possible so that they can acquire the skills, knowledge and values we believe they should have without discouraging them.

Once the young person reaches adulthood, his or her learning task changes again. Now the young person must put his or her skills, knowledge and values to work in the real world. That is to say, acquiring an education, the acquisition of knowledge, skills and values passed down by others, is not the same as learning to put that education to use. And that learning comes when the young person engages in meaningful work. This can sometimes occur even at the high school or college level when students are involved in "practicum" training related to their studies. On the other hand, teenagers who take out of school jobs just to make money, do not do as well in school as students who devote full time to academics.(1) It is through meaningful work that the young person finally comes to occupy the house that he or she has built. Meaningful work enables the young person to translate education into productive action.

In short then, the infant and young child learn by constructing their mental house; children and adolescents learn by reconstructing (furnishing and decorating) their house; while adults learn by working (living in their house). The analogy between the growth and outfitting of children's minds with the building and furnishing of a house is admittedly a crude one. Nonetheless, it highlights the fundamental error of miseducation. WE MISEDUCATE CHILDREN WHENEVER WE ATTEMPT TO DECORATE AND FURNISH THEIR MINDS WITH FORMAL EDUCATION BEFORE THE STRUCTURES OF MIND ARE FULLY COMPLETE.

In this chapter we will look at the major learning activities of the infants and young children as they go about their task of constructing a world of people and things. These activities are: self-direction, permeable learning, the structural imperative, and play.

THE LEARNING OF YOUNG CHILDREN IS EXPLORATIVE AND FUNDAMENTAL

As adults it is easy for us to take our immediate world of animate beings and inanimate things for granted. We are so caught up in our symbolic worlds of plans and projects, of past successes and failures that the immediate world often seems secondary to what is to come or what has gone before. Even when we do concentrate upon the present, as in savoring a special dish or a fine wine, our pleasure comes as much from a sophisticated, experienced palate as from the food or wine itself. As we mature each new experience is interpreted from generalizations of similar experiences in the past and anticipations of comparable experiences in the future.

For the infant and young child however, there is only the present and each experience is fresh and unique. We all recall, I think, our first encounter with sweet corn, wild berries, or ice cream. Somehow, the sweet corn we get as adults never tastes quite the same as what we had when we were children nor do the berries we buy at the store taste as good as those we picked in

our neighbor's yard when we were children. To be sure, this is partly nostalgia, partly a matter of tired taste buds but it is also a matter of the striking quality of a first experience with a taste treat.

For the infant and young child, the color of the wallpaper, the changing pattern of light and shadow in the nursery from morning to night, the gentle songs of birds, the harsh grating of cars and trucks, of airplanes and vacuum cleaners are all new. So too are the smooth textures of plastic teething rings, the rough texture of the blanket, and the bristly texture of Daddy's beard when he kisses you before he shaves. Smells are no less a novelty. The smells of breakfast, lunch and dinner are each different as are the smells of Mommy's perfume and a pet's body odor. And some smells are unpleasant, and make you wrinkle your nose and turn away.

Infants and young children, then, learn through direct encounters with the immediate world of people and things, through exploring these experiences with all their senses and combining these experiences to arrive at more complex and complete schemas, or elementary concepts of people and things. This type of exploratory learning is a necessary prerequisite to the symbolic learning that will come later. Symbols represent schemas and concepts, and that is why it makes no sense to teach infants and young children symbols before they have the schemas and concepts that those symbols represent. It is a little like teaching a child to use a knife and fork before he or she knows how to chew.

A young child's learning is also fundamental, rather than derived, as it will be later. Fundamental learning is what all infants and young children in all parts of the world and in all of previous history have learned. Such learning is not derived from the learning and achievement of our society or culture, it is the kind of learning that is part of our animal heritage and that is basic to survival. Bad and good smells, sounds of security and safety, tastes of freshness and of something gone bad, textures which offer comfort and those which offer pain, as well as basic concepts of space, time, causality and objects all have to be learned if the child is to survive.

The learning of older children, in contrast to that of infants and young children, is symbolic and derived. It is symbolic in that it involves written or spoken words and numbers and it is derived because its symbols and concepts have been acquired and handed down by the child's culture. To be sure, by the age of two, children begin to learn words and to acquire some derived concepts. The age period of three to six is an overlap period between exploratory-fundamental learning and symbolic-derived learning. But the general learning principle of this period is still the same: experience the object, quality or relation before receiving the symbol for that object, quality or relation.

The predominance of exploratory and fundamental learning in infancy and early childhood has been recognized by all of the giants of early childhood education:

"Nature would have children be children before they are men. If we try to invert this order, we shall produce a forced fruit, immature and flavorless, fruit that rots before it can ripen. Childhood has its own ways of thinking, seeing and feeling." -- Jean Jaques Rousseau (2)

"The man who in his youth has not caught butterflies, or wandered over hill and dale hunting for plants, etc. etc. in spite of all desk work, will not get far in his subject. He will always be exposed to blunders he would not otherwise have made." -- Heinrich Pestalozzi (3)

"Therefore, the first voluntary employments of the child, if its bodily needs are satisfied and it feels well and strong, are observations of its surroundings, spontaneous reception of the outer world and play, which is independent outward expression of inward action and life." -- Frederick Froebel (4)

"It may be said that we acquire knowledge by using our minds; but the child absorbs knowledge directly into his psychic life. Simply by continuing to live, the child learns to speak his native tongue. A kind of mental chemistry goes on within him. We, by contrast, are recipients. Impressions pour into us and we store them in our minds; but we ourselves remain apart from them, just as a vase keeps separate from the water it contains. Instead, the child undergoes a transformation. Impressions do not merely enter his mind; they form it. They incarnate themselves in him. The child creates his own mental muscles using for this what he finds in the world about him. We have named this type of mentality, the Absorbent Mind." -- Maria Montessori (5)

"The first knowledge of the universe or of himself that the subject can acquire is knowledge relating to the immediate appearance of things or to the external and material aspect of his being... Intelligence thus begins neither with knowledge of the self, nor of things as such but with knowledge of their interactions, and it is by orienting itself simultaneously toward the two poles of that interaction that intelligence organizes the world by organizing itself." -- Jean Piaget (6)

The fact that young children learn in an exploratory and fundamental way does not mean that there is nothing we can do to facilitate that learning. Rather, it means that we must adapt our educational practices to the modes of learning of this age group. That is what Rousseau, Pestalozzi, Froebel, Montessori and Piaget all argued. The danger, which all of them saw and resisted, was the imposition on infants and young children of instructional practices that were appropriate only to older

children and adults. Instead, what they argued was that the adult could provide materials which would encourage and elaborate the child's exploratory learning.

We miseducate young children when we ignore their unique mode of learning and try to teach them what we want them to acquire rather than what they have to attain.

PERMEABLE LEARNING

Pavlov's dogs, who learned to salivate at the sound of a bell, are not good models of infant learning. The dogs learned to respond to the bell when it was paired with the introduction of food during feeding time. The bell became, as every introductory psychology student knows, a "conditioned stimulus" for the response of salivation. We now know that conditioning as it was described by Pavlov is an abstraction, a tremendous oversimplification of what really goes on in even the simplest learning situation. His dogs, for example, did not just salivate at the sound of the bell but oriented their whole body in the direction of the sound. Moreover, salivation was accompanied by increased respiration, heart rate and other physiological changes. Learning is never the simple association of an isolated stimulus with an equally isolated response. (7)

And this is particularly true in infancy when the infant learns with his or her whole body and mind. Learning at this stage is permeable in the sense that the inventory of skills and subjects that we use at later levels of learning and instruction are really not applicable during infancy and early childhood. Skills like reading and math as well as subjects like science, art, music, literature are not even dreamed of in the minds of infants and young children. Reverting to our analogy, when the house is being framed, one can walk through the "walls to be" because the wall boards have not yet been put up.

To illustrate the permeability of learning at this stage, consider an infant who is playing with a mobile hung above the crib. The infant reaches for it and hits it with a fist, the mobile moves and child has a lesson in physics. The mobile then begins to sway back and forth which the child imitates with his or her hand and head. The child is beginning to appreciate rhythm. As the child looks at the shapes of the mobile, the infant is beginning to acquire a range of geometric forms, at the same time is also learning to discriminate the different colors of the mobile. Although these different acquisitions may not happen at exactly the same time, they are all closely tied up with one another and are not at all separate and distinct.

One can see the same kind of permeability of learning even more clearly at the preschool level when a group of children are engaged in a common project such as making vegetable soup. Some children are peeling carrots, others are cleaning celery and green peppers, while still others are pulling stems from cherry

tomatoes, while the remaining youngsters are shelling peas. Once all of the vegetables are prepared the teacher puts them in a pot on the stove, adds water and seasoning, and turns on the burner while the children look on.

What do the children learn from this activity? First of all, the children are learning social cooperation; each is playing a contributing role to a common project from which all of the children will benefit. They will all get to eat the soup. Secondly, they are learning the names, colors and shapes of the vegetables, as well as the difference between peeled and unpeeled vegetables. In the third place, they are learning to discriminate and label different degrees of consistency such as "crisp" "limp" and "soggy." Fourthly, they are also learning a lesson of physics and chemistry: boiling softens vegetables.

But that is not all the learning that takes place when children help in making soup. They are also learning about weights and measures as they follow a recipe with respect to the weight or numbers of carrots, peas and tomatoes to be put into the soup. They also have to time the boiling and so learn something about clock time as well. In making soup children learn a good deal about science, language, math, art and so on but without being aware of that fact. All they know, or need to know, is that they are having fun making soup.

The fact that children learn many things all at the same time and within the context of a single activity is often forgotten by those who would teach infants and young children specific skills. No infant or young child ever learns a particular skill in isolation from a set of other skills. In the same way, the infant and young child never learn isolated bits of knowledge or single values. The learning of skills, of knowledge and values for infants and young children is highly permeable.

Given this mode of permeable learning what effect does teaching a specific skill have upon an infant or young child? Although we cannot be sure exactly what other learnings will take place, we can be sure that some other learnings will occur. For example, does an infant who is being taught to swim also learn that parents can be cruel, that the world is a liquid as well as a hard place, that life is a struggle to keep your head above the water? Whenever we instruct infants and young children in any particular skill, we have to be concerned about all the other things they will necessarily learn as a result.

The permeable nature of the young child's learning makes it clear why formal education should not be begun at the age of four as some educators have recommended. (8) Formal education presupposes instruction in specific skills such as reading and math but the child's mind does not function within fixed categories at all;--there is permeability everywhere. A young child may not attend to what is going on in the lesson for many different reasons. He or she may be caught up in trying to understand the words, when the teacher is intent upon phonics. I

recall one child who was diagnosed as having a severe reading problem. It turned out that she could never get beyond the initial phrase of fairy tales. The reason was that she was struggling to understand what "once upon a time" meant. She could not imagine being physically "upon a time."

Sometimes the permeability of children's learning is recognized but is seen as something to be avoided. This attitude towards the permeability of learning in young children is illustrated by the following personal experience. As part of my research on visual perception, I wanted to find out how deaf children's perceptual development went. Did the absence or limitation of hearing improve their perceptual abilities (the so called "compensation" theory) or were their visual abilities impaired as well (the so called "correlation" theory)? To try to answer this question I got permission to test young children in a school for the deaf. I had as my assistant a student who could both sign and speak.

As is my usual practice, I arranged to spend some time in the classroom with the children I was going to test before I actually began the examination. In this way the children would have a chance to see me and to become familiar with my presence before we sat down to our task. It makes for a more comfortable interview. My classroom time with the deaf children was, however, one of the most distressing experiences I have ever had in a school.

Let me say first that the school itself was extraordinarily beautiful. The building was a refurbished old mansion located on the shores of one of the great lakes and had been donated to the school by a family that had a deaf child. The rooms had high ceilings, beautiful woodwork and large, wide windows of the European variety. It was the splendor of the physical plant, and the well kept lawns and flower beds, that contributed to the distress which I felt when I entered the classroom.

The first thing I noticed was that the walls were painted a stark white, instead of a gentle off-white softened by a tinge of yellow or beige. The starkness of the walls was accentuated by the emptiness of the room. There were no plants, no animals, no pictures on the walls, no toys or models or materials of any sort. In the middle of the room the teacher sat on a hard backed chair with eight children sitting around her in smaller but equally hard backed chairs. They were working on a lesson and the teacher was finger spelling to them while they followed her and the book in their laps.

I knew the philosophy of education which dictated this sort of classroom, but I had never before seen it carried out to such an extreme. The theory is that these children are easily distractable (their learning is permeable) and that in order to get them to concentrate on their lessons they need an environment which is dull and uninteresting. As I sat watching the children follow the exercise a phrase kept running through my mind and I

almost said it to the teacher. But I kept my silence. Later when I had a chance to take a solitary walk around the grounds and was sure that I was out of earshot of the school, I shouted out what I had wanted to say in the classroom, "My God, these children are deaf; they are not dead!"

What is wrong with this philosophy is the same thing that is wrong with those who would instruct young children in single subjects--it ignores the way children learn. Young deaf children like young hearing children learn in a permeable way not in a restricted fashion. By eliminating so much from the classroom much that a child might learn is eliminated as well. Far from being distracted by rich environment of plants, animals, pictures and materials, the child incorporates and works those things into what he or she is learning or reading about. We can limit what we teach, but we cannot limit what children learn.

The distraction theory, by the way, gives a good illustration of the negative dynamics of miseducation. If children are not paying attention there are a number of possibilities. One possibility, for example, is that the subject matter being taught is inappropriate for their age group. Another possibility is that the material is so dull and boring that it has little or no interest value for the child. Still another possibility is that the teacher is approaching instruction in the wrong manner and with the wrong strategy. Children will be distracted in any of these situations. But rather than check up on any of these possibilities, the blame and responsibility are immediately placed on the children who are labeled, "distractible."

Because children with limited hearing are more difficult to teach than hearing children, any one of the various possibilities mentioned above is likely to be at work. Yet, invariably, it is the child's disability which is pointed to as the cause of his or her "distractibility." Likewise, when parents fail in their attempts to teach infants and young children skills like reading, the children are said to be at fault. They are too "lazy" or too "stubborn" to cooperate. In both cases, in my experience, miseducation is more often the culprit. Unfortunately, the failures of miseducation are often attributed to limitations in the child.

One last consequence of the permeable learning of young children has to be mentioned. When we adults fail at something we can limit that experience to a particular domain, it doesn't permeate to all aspects of our self esteem. But that is not the case with young children, if they experience failure it permeates their whole sense of themselves and can be devastating. This is perhaps the most important reason for not exposing children to formal learning, and needless failure, at too early an age.

THE STRUCTURAL IMPERATIVE

How shall we answer the question "Why do birds fly?" We might try to be funny and say, "Because they are too lazy to walk." This explanation is an intentional one and suggests that birds fly because they choose to do so. Or we might say that "flying is necessary for birds so that they can go south in the winter and north in the summer." That would be a functional explanation and would speak to the purpose flying serves for birds. Finally, we might say that birds fly because "they are built to fly, their bodies are aerodynamically sound, their wings are physiologically arranged to expend large quantities of energy at relatively low biological cost" and so on. This last explantion is a structural one and explains the birds flying in terms of how the bird is built.

When we ask why a young child learns to walk or to talk, we are placed in somewhat the same situation as if we asked why birds fly. We can say, for example, that a child learns to walk or talk because he or she wants to--an intentional explanation. Or we might say that the child learns to walk and talk because these skills enable the child to meet his or her needs more efficiently--the functional explanation. Or, finally, we can say that the child is, in effect, built for walking and talking and in so doing he or she is simply realizing his or her structural possibilities--the structural explanation.

When we talk about motives in learning, we usually talk about intentionality. Perhaps the most well-known rule of psychology is the "law of effect" (8) that we act so as to increase pleasure and to avoid pain. But intentionality is not the prime motivator of learning at all stages of development. For most mammalian species, including our own, learning during the early years of life is driven by structural, not intentional, motives. It really makes no difference whether birds do or do not enjoy learning to fly nor whether or not children take pleasure in learning to walk and to talk. Children learn these skills because there is a kind of structural imperative, an "inner push" so to speak, to use the structures they are attaining.

To be sure, learning to walk and talk may be pleasurable for a child, but pleasure could hardly be the sole motive. Learning to walk and talk are effortful and occasionally painful. If the child were simply pleasure seeking, he or she might simply vegetate in the crib and demand to be cared for. Learning in infancy and early childhood, then is often governed by the structural imperative, the biological pressure to use structures that are in the process of formation. The spontaneous learning that grows out of the need to utilize emerging abilities is perhaps best illustrated by young children who have exceptional talent.

Dalit Warshaw was one of the winners of the 1984 BMI International Competition for student composers. Her winning

four-piece composition was entitled "Fun Suite." At the time of the competition this suite had already been performed by the Rockland Suburban Orchestra, by the Denver Symphony Orchestra, and had been broadcast on WQXR-FM. In addition to her composing talents Dalit is also a performing artist and several months before the competition she gave a solo piano recital in which she played Beethoven's Sonata in G Major and Mozart's Fantasia in D Minor. In 1984, when Dalit finished a winner in the BMI International Competition, she was 9 years old!

Here is how Lilian Kalir, a concert pianist, appraised Dalit's playing:

"She's absolutely extraordinary. Her creativity, her rhythm, her joy--its artistry you can't learn. Her technique isn't even that good, but her sound is exceptional." And as for her original compostions Lilian Kalir said:

"They'd be amazing even if they were done by listening to records and then imitating. But it's much more than that. The pieces are enormously, wildly imaginative. If I had a child like that I am not sure what I would do. You have to be terrified that you might do something wrong, that you might not support the gift properly."

Dalit's gift appeared early and spontaneously. The only useful answer to the question as to what motivated Dalit's interest in music is that she was born with a gift which sought expression. It was a structural imperative.

"Dalit expressed interest in the piano even as a toddler, and when she reached three and a half, Ruti (her beautiful, Israli born mother who is also an accomplished pianist) began giving her lessons. It was soon apparent that she was a quick study. A year later, eager for an informed but objective opinion, Ruti convinced Naida Reisenberg, a highly respected Juilliard faculty member and piano teacher, to hear Dalit play. Reisenberg was very encouraging, both to Dalit and to Ruti who had been reluctant to continue teaching her own child. 'Stay with it,' Reisenberg told her. 'Don't enroll her in a music school, because they will make her play like a robot.'"

"Dalit gave her first recital at the age of four and one half and composed her first piece shortly after turning seven years old. It was entitled "Fun, Hide and Seek." After the BMI competition, Dalit composed another piece "In The Beginning" a symphonic suite in eight movements based on the biblical story of creation. It too was performed by the Rockland Symphony Orchestra. Dalit's younger brother, Hilan, is a gifted violinist who has sometimes accompanied his sister on the concert stage." (9)

In the case of Dalit, as in all instances of talent, the why question cannot be answered in the intentional mode. To be sure, Dalit wanted to play the piano and wanted to write compositions,

but the real question is why she wanted to do these things. We come back to the structural imperative, that certain mental structures motivate or drive the person who has them to exercise these structures and to give them expression.

Intellectually gifted children present another, different example of the structural imperative. First of all, intellectual giftedness and creative talent are not the same. In fact, they represent two different modes of thought. Intellectual giftedness reflects what has been called "convergent thinking", thinking which moves along conventional lines. Talented youngsters, in contrast, tend to think in "divergent" ways that deviate from the conventional modes of thought. Talented children like Dalit are creative and original while intellectually gifted children are mentally precocious. (10)

What is often striking about the intellectually gifted youngster is how much he or she has acquired of conventional knowledge. Such children read early, and quickly master bodies of knowledge of the conventional sort, math, history, science and so on. In the case of intellectually gifted youngsters the structural imperative takes the form of accelerated learning and mastery of conventional forms of knowledge:

"Kevin Kaliher is 10. He has an IQ of 169. His least favorite question, he says, is 'How did you get so smart?' His answer, 'I guess I was born that way.'"

"Kevin has scored almost 700 (of a possible 800) on the math portion of the SAT... He is now in the ninth grade at Lake Forest Academy in Lake Forest, ILL. Still he insists in a voice that is quiet but assured, 'I'm really a normal kid--just a little smart.' Kevin amuses himself by working with graphics on his Franklin Ace 1000 home computer and by studying piano and violin." (11)

Children who are gifted intellectually show their promise early not because they intentionally choose to do so, or because someone forces them to, but rather because their own mental abilities push for realization. While this structural imperative operates in the mental developmenmt of all children, it is particularly strong in talented and intellectually gifted youngsters. The real challenge for parents and teachers is to encourage and support this powerful structural imperative without doing damage to the whole personality. Particularly in early childhood, when permeability is the rule, it is important for intellectually gifted and talented children to have a full range of physical, social and intellectual enrichment.

The innateness of the structural imperative makes it clear why those who believe that, through training, they can significantly improve a child's intellectual ability or give the child creative gifts are bound to fail. A child with native ability or talent, growing up in a loving and supportive atmosphere, will spontaneously seek to realize his or her

abilities. But a child cannot be taught to be intellectually gifted or talented. No amount of parental teaching and instruction is going to produce a Dalit or a Kevin. We can encourage and support children so that they can maximize the abilities that they have, but nature sets the limits on what nurture can accomplish. The structural imperative cannot be learned. Some other examples of the early childhood of well-known figures speak to this point.

"Prokofiev, at five composed a galloping home song and at seven composed an opera 'The Giant' (ignoring the black keys). Yehudi Mehuhin was studying the violin seriously at the age of three and was admitted to the Vienna Conservatory at seven. At three, Paderewski picked out melodies with one finger, and at four used all of his fingers. (This did not prevent a teacher from telling him that he could never expect to be a good pianist because his fingers were too short). Sousa organized his first band when he was seven. Schweizer played the organ for Church services when he was nine. Norman Angell was editor of a newspaper at fifteen... At five, Steinmetz could do multiplication and division with fractions. After finishing a book on mathematical physics, schoolboy Enrico Fermi remarked to his sister that he had not noticed that it was written in Latin. While Fermi was in elementary school he designed electric motors which worked." (12)

It should be said too, that the structural imperative of a talent sometimes makes its appearance during late childhood, adolescence or even adulthood. Although some evidences of this structural imperative are usually present these hints of genius are often missed or misinterpreted.

"Stephen Crane, Eugene O'Neill, William Faulkner, and F. Scott Fitzgerald experience failure in college because they did not enjoy the content of the courses they took. D. H. Lawrence stood thirteenth in a class of twenty-one pupils enrolled in Nottingham High School. The Beaux Arts rejected Cezanne when he applied for entrance."

"Thomas Edison said of school, 'I remember that I was never able to get along at school. I was always at the foot of the class. I used to feel the teachers did not sympathize with me and that my father thought I was stupid.'"

"Albert Einstein was considered dull by his teachers and by his parents. His son Albert Jr. said, "Actually, I understand my father was a very well-behaved child. He was shy, lonely and withdrawn from the world even then. He was even considered backward by his teachers. He told me that his teachers reported to his father that he was mentally slow, unsociable and adrift forever in his foolish dreams.' It was for this reason that the father, when Albert was sixteen, urged him to forget his 'philosophical nonsense' and apply himself to the 'sensible trade' of electrical engineering. A slowness of speech had predisposed his parents to think him dull." (op. cit. p. 248)

In these instances, as in many cases of creative talent, the structural imperative appears later than earlier. During the early years, the structural imperative may emerge in what appear to be strange or deviant behaviors. Miseducation is particularly hard on such talented youngsters whose bent is toward divergent thinking. Education is geared to convergent thinking. Perhaps that is why so many gifted and talented young people dislike school. In their classic study of 500 persons of eminence, the Goertzels found that three out of five of these people had serious school problems.

"Their dissatisfactions were: with the curriculum; with dull, irrational or cruel teachers; with other students who bullied, ignored or bored them, and with school failure. In general, it is the totality of the school situation with which they are concerned, and they seldom have one clear-cut isolated complaint." (op. cit. p. 241)

Schooling, therefore, is more often a hindrance than a help to those who are gifted and talented. Exposing such youngsters to schooling after the foundations of mental life have been solidly constructed is bad enough. But the imposition of schooling upon such children when they are very young can potentially damage their creative potential. A gifted or talented child of three or four who is told that is he or she does not pay attention to the task at hand, he or she is bad or lazy, has his or her creativity put at risk. We seriously miseducate such children when we expose them to educational practices at an early age that have not worked with older gifted and talented young people. Miseducation is bad for all young children but it is particularly so for the gifted and talented.

CHILD'S PLAY

Play is not the child's work, and work is not child's play. Early childhood educators, trying to defend children's play against those who wished to introduce formal learning into the preschool years often resorted to Montessori's dictum that "Play is the child's work" (13) to justify play to parents. Play, it was said, was the way in which children learned about the world. Montessori took her position from the writings of Carl Gross whose two books on animal and human play (14, 15) are classics in the field. Gross was much influenced by Darwin and looked at the play of children and animals in an evolutionary perspective. From this point of view, kittens pouncing on a ball and children playing house were preparing for adult activities and roles.

What this analysis misses is the fact that while play is a form of learning, it represents a different form of learning from the learning of formal skills or adult roles. Play is always the transformation of reality in the service of the self. When a child makes believe a stone is a turtle, or that two sticks are an airplane or that a muffin tin is a space ship, he or she has

transformed a bit of reality to serve a personal need. The need often is to take charge of and to control aspects of the child's world. Play, as Freud (16) made clear, is most often an attempt at mastery. But it is an attempt to master the inner world of desires and impulses, not the outer world of objects and mechancal devices.

In early childhood, play is indeed a form of learning. But it has to do with learning about the self, not with learning about the social world. And play is a preparation for adult life to the extent that learning about oneself is a preparation for adult life. But the play of young children, like other modes of learning, is not the same as it will be in later childhood and adolescence. In early childhood, play is almost entirely personal whereas once the child enters childhood proper, play takes on social elements and becomes games with rules.

The evolution of children's dreams reflects this evolution from the personal to the social in children's play. The dreams of young children are often direct wish fulfillments. A child who wants an ice cream cone, may dream of an ice cream cone. Likewise, a child who is afraid of dogs may dream of a dog, and wake up in fear. In childhood proper, however, the personal wishes and anxieties are disguised by what Freud called the "dream work" processes of condensation, displacement and substitution which hide the meaning of the dream from the dreamer. The dream work comes into action after the child has internalized a "superego" or conscience after the age of five or six. After that age the child has to censor his or her own dreams and play, to avoid experiencing socially prohibitted impulses and expressions.

Accordingly, the play of the preschool child is a more direct and open expression of personal needs and of attempts at mastery than it will be later. The play of young children is important, then, not because it is the child's way of learning reading and math but rather because it is the child's way of learning about himself or herself. Sometimes this kind of learning can be distressing to those who observe it. This is true because young children, no less than older children and adults, have cruel sadistic impulses as well as tender and affectionate feelings.

For a number of years I did summer workshops at Ghost Ranch, in Abique, New Mexicao. The Ranch is a retreat and conference center for the Presyterian Church. It was also used, by its Director, Jim Hall, as a model of water and land conservation. My sons came with me and the youngest was three years old the first summer I arrived. He went to a nursery school during the morning where he learned the phrase, "one of God's creatures" as a general term for the many insects and bugs that could be seen scampering about.

In our room one day, he found a roach which he quickly stepped on while shouting with glee, "Look Daddy, one of God's

creatures" (stamp, squish). Several years later he became quite protective of "God's Creatures" and would not think of stepping on bugs. The play of young children is not tempered by elements of social learning and expresses directly both their negative as well as their positive impulses. While we certainly do not want to encourage sadism or cruelty in children, we have to recognize that in this sort of play the child is discovering another facet of himself or herself.

It really does little good to tell a child of this age, "How would you feel if someone did that to you?" because the preschooler is really incapable, intellectually, of putting himself or herself in the position of another living thing. This inability to take the perspective of another is easy to demonstrate. If you have a preschooler who knows his or her right and left hands, have him or her stand opposite you and identify your right and left hands. Most children of this age identify your left and right hands as being opposite their own, they do not take the other person's point of view.

This does not mean that we should not try to teach young children not to be cruel. Rather it means that our instruction has to take into account the child's limitations. If, for example, a preschooler is cruel to a friend, it is important to say, "When you hit Johnny you really hurt him, he feels bad. You should say that you are sorry." In this way we point out to the child the direct consequences of his or her action, rather than demanding that the child figure it out by inference.

Children learn about other facets of themselves through symbolic play as well. When children play house, or school or store, they discover personal powers of assertiveness, control and direction which can bolster self-esteem and self-regard. Sometimes symbolic play is compensatory, to make up for feelings of weakness and powerlessness. That is the reason that boys in particular become enamored of superheroes like Superman, or Spiderman or Batman. In taking the role of the superhero, the child can, for a while, feel more powerful and competent than the adults who are constantly asserting their authority over him or her.

As a mode of self-discovery and compensation, however, role playing has its limits. A certain amount of role playing in the service of self discovery and compensation can be healthy, but too much can be unhealthy and a form of miseducation. Children should not be allowed to overindulge in superhero play because they may confuse the superhero's powers with their own. A child who hurts himself or herself, by jumping off a high place in the belief that he or she can fly, has become overinvolved with the superhero. Role playing, as a mode of self-discovery and/or compensation is limited (as is acting in general) because someone else has written the script. True self-discovery comes from knowing the scripts we have written for ourselves.

Play in early childhood, then, is different from what it will be later. Among school age children play is heavily socialized and involves games with rules as in sports, or table games such as checkers, chess, Monopoly or cards. In games with rules the transformations of reality in the service of the self are shared transformations. In baseball, every player shares the convention that the ball is important, and that its possession in certain circumstances will determine the winners and the losers of the game. In chess, both players agree to the transformations of pawns into queens, kings, knights, and bishops.

In early childhood, the transformations are largely personal rather than shared and are critical to the child's learning about different facets of himself or herself as well as to his or her mastery of unpleasant emotions. In childhood proper children learn about themselves from others and can use defenses like rationalization to deal with emotional upsets. In early childhood, however, play is the child's only means of self discovery and of handling feelings of weakness and powerlessness. Play is important in early childhood, not because it is the way in which the child learns about the world, but rather because it is the only means of self discovery and self defense that the child has at his or her disposal.

The importance of personal, symbolic play in early childhood makes it clear why games with rules have no place at this age level. Young children who are entered into sports or social competitions cannot use these experiences for self discovery or self defense. On the contrary, such competitions may add to the child's feelings of weakness and inadequacy while denying him or her a means of compensating for those feelings. Entering young children into competitive, rule regulated activities, is a clear case of miseducation. The child is put at risk for negative feelings about the self while depriving the youngster of the means for dealing with those feelings. Since there is absolutely no evidence of the long-term gain of such early entrance into competition, the yong child entered into these activities is put at risk for no purpose.

The Assessment of Readiness for School: Psychometric and Other Considerations

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Should the Federal Government collect data about the Nation's 5-year-olds? Should we assess the readiness of young children for school or measure their development along several dimensions both cognitive and social? Would it be important to have large-scale, representative data about language development, concept formation, attention span, perceptual abilities, and even motor development in young children who are just beginning formal education? Would data of this type serve important functions such as needs assessment, i.e., what is the range of abilities and skills that must be met by instructional programs, or provide a baseline for judging the progress of children when they reach fourth grade, or even serve as outcome measures for evaluating changes in preschool education?

Technical Issues

The Center for Education Statistics is contemplating an assessment of school readiness. I have been asked to consider the psychometric issues which bear on the feasibility and desirability of such an assessment. If we construe psychometrics in a very narrow, technical sense, then I am to talk mostly about reliability and statistical validity. If we take the National Assessment of Educational Progress as a model and try to anticipate what unique problems might arise, then our focus must be primarily on the difficulty in measuring anything (reliably or with validity) in 5-year-olds. Surely, such an assessment could not rely on group-administered paper-and-pencil tests. Even if we assume that task directions would have to be read to the children, one still could not expect to stand in front of a room full of 5-year-olds and say, "put a circle around the picture that begins with the 'b' sound." It would be silly to assume that all children had minimal familiarity with following directions and managing paper and pencil tasks, if what one were trying to measure were differences in just these skills.

The logistical constraints on conducting an assessment with 5-year-olds are analogous to any performance assessment. Usually individual or very small group administration is implied; many appropriate tasks involve manipulating objects or completing a set of actions, and cannot be reduced to multiple-choice test questions. In the past, the National Assessment included several impressive performance assessments but (with the exception of writing assessment) these have gradually been eliminated by successive budget cuts. Most technical problems--i.e., does the assessment measure accurately and authentically what it purports to measure?--can be solved by careful and costly individual testing procedures. Therefore, the contemplated readiness

assessment must either be envisioned as much more expensive than the current assessment of 9-year-olds or 13-year-olds or must be undertaken on a smaller scale with smaller samples and less stable results.

An assessment of 5-year-olds would also encounter more non-routine sampling problems than do other age-grade assessments. Kindergarten attendance is not yet perfectly universal; therefore, sampling and logistical difficulties would occur similar to those encountered for out-of-school 17-year-olds. Nationally, there is also a substantial shift from private school to public school attendance between kindergarten and first grade. Perhaps these sampling issues have been anticipated and have already been solved by addressing the readiness skills of beginning first graders rather than 5-year-olds. Later, however, I will comment on the implications of this solution to the sampling problem for what is measured and for the policy uses of the data.

Policy Issues

Technical problems involved with readiness assessment may be expensive but are solvable; they are, however, trivial compared to the larger policy issues raised when the U.S. Department of Education turns its attention to school readiness. A "statistical program," the focus of today's conference, should not be undertaken without some direct analysis of its policy implications. What is the Federal Government's role in setting the national agenda for early childhood education?

Is this question inappropriate? Can't the Federal Government engage in an innocent and agenda-free data collection effort and leave educational policy to the States? Yes, but only when it collects data that are uninteresting or unimportant; usually, however, it is the intention of the Department to shape educational policy, Secretary Bennett's Wall Chart being only one recent example. Furthermore, to assert that a federal agency is interested only in collecting useful data ignores the impetus for this sudden interest in school readiness. The suggestion to assess readiness did not come out of the blue. It is part of a national movement with profound implications for early childhood education. The Department will join this movement wittingly or unwittingly. Perhaps CES researchers are unaware that they seem already to have taken sides between intensely debated views on early education. However, the very titles selected for the conference and assigned to the presentors, especially Shipman's "preconditions for school," conform to one conception of early education and not to others. Before proceeding with discussion about the feasibility of conducting such an assessment, the Department should examine directly the assumptions about education that are implicit in the Nation's heightened interest in readiness.

The major purpose of my remarks today is to describe what I call the national obsession with readiness and to explain its destructive aspects. I am trying to characterize the model of early education that the Center appears to have subscribed to, perhaps without intention. Finally, I will outline the implications of these concerns for conducting an asessment.

The National Obsession with Readiness

In several states and in countless school districts across the Nation, policy makers have instituted readiness screening programs for kindergarten or first grade. In many instances these tests are intended to help the classroom teacher plan instruction during the first months of school. This type of readiness testing has been going on for decades and is very unlikely to have negative consequences. I am more concerned, however, with the many new cases where the purpose of the testing is to hold unready children out of school or to assign them to extra-year tracks. (Extra-year programs come in a variety of forms including developmental and pre-academic kindergartens, repeating kindergarten, transition classes, and pre-first grades.)

For the past three years my colleague, Mary Lee Smith, and I have conducted a series of studies on kindergarten retention, school readiness, and the birthdate effect on achievement in early grades (Shepard & Smith, 1985, 1986, 1987). In the course of our research we identified what we called the phenomenon of escalating curriculum. The academic demands of kindergarten and first grade are considerably higher than they were 20 years ago. Furthermore, the escalation is on-going, with many teachers reporting that they feel a constant pressure to teach more from the next-grade's curriculum.

The increasing demands of kindergarten and first grade have multiple causes. Kindergarten attendance has become more nearly universal; thus first grade teachers have begun to assume a common set of prerequisites. Now a child is deficient if he does not know letter sounds that once were taught routinely in first-grade. Likewise, Sesame Street has raised the norms for kindergarten learning; if children already know the alphabet, then we must teach them something else. Many have lamented that kindergartens are no longer intended for socialization and play (Martin, 1985; Roberts, 1986). In turn the escalation of academic demand is felt in preschool. Olenick (1986) reported that in a study of 100 randomly selected child-care programs in Los Angeles, one quarter could be classified as "sit down, shut up and count to 100."

Over the past 50 years entrance-age requirements have shifted, now requiring that children be older to start school. Changes in entrance-age policies have been in response to the greater demands of schooling since they are usually accompanied

by statements about the unreadiness of the youngest children. Nevertheless, raised entrance ages have in turn contributed to the escalating standards as the curricular expectations are adjusted to the new older group (Shepard & Smith, 1986).

In our interviews with kindergarten teachers two sources were identified for the day-to-day pressure to raise expectations: accountability in the higher grades and the demands of middle-class parents. Promotional gates at third grade or sixth grade are translated downward into fixed requirements for the end of first grade. If a first grade teacher is visited by the principal and reprimanded for any child who is below national norms on standardized tests, this teacher communicates to the kindergarten teacher her unwillingness to accept children for first grade who are not ready to read. At the same time many middle class parents visit school and convey that their only criterion for judging a teacher's effectiveness is her success in advancing their child's reading accomplishments. Other evidence of enriching experience and cognitive development is ignored. What counts is the number of first-grade primers digested in kindergarten.

All of this may sound like a success story for accountability; one might say, "hurray for higher standards." But escalating demands in the earliest grades have severe negative consequences. Many more children fail; more poignantly, many fail who would have in due course done quite well. For example, we learned many years ago from international studies that if reading instruction is delayed until age seven, it can occur faster, easier, and with no loss in ultimate proficiency (Rohwer, 1971).

Readiness screening of individual pupils in local school districts is in direct response to higher standards. Now it is necessary to find the children who are unready and remove them. (Notice that a clear moral choice has been made. Children must accommodate to the fixed expectations of the system rather than adjusting the system to individual differences in children.) Advocates for keeping children home, for kindergarten retention, and for extra-year programs (DiPasquale, Moule, & Flewelling, 1980; Donofrio, 1977; Galloway & George, 1986; Gesell Institute of Human Development, 1982)) believe strongly that they are acting in the best interests of unready children. They seek to protect less ready children from this inhospitable environment, essentially rescuing them from an early failing experience. Advocates for these extra-year programs, however, have not provided evidence of program benefits and have ignored negative side-effects, as I will attempt to explain.

Only two options have been proposed for children deemed unready, have them stay at home or spend an extra year of school before first grade. Holding less ready children out of school is indefensible as public policy. The burden of this policy falls most heavily on children from lower socio-economic backgrounds, i.e., the children who most need the opportunities of public

education. Whether readiness measures are strictly pre-academic or measure more broadly defined developmental age, they are correlated with socio-economic status and with traditional measures of IQ. In fact, these tests correlate more highly with IQ mesured at the same time than with indicators of school achievement measured later in time. The National Association for the Education of Young Children has condemned the practice of denying entry to kindergarten or retaining children in kindergarten because they are judged not ready "on the basis of inappropriate and inflexible expectations." (NAEYC, 1986, p. 27)

Extra-year programs, especially transition classes between kindergarten and first grade, are enjoying great popularity. These programs deal with unreadiness without holding children out of school. However, research evidence does not support the claim that these programs are beneficial and benevolent. Instead, in several controlled studies children who spent an extra year before first grade were no better off academically at the end of first grade than "potential first grade failures" who went directly on to first grade (Gredler,1984; Shepard & Smith, 1987). (Only one in eight studies found a short-term benefit in reading for transition room children (Raygor, 1972).) More seriously, extra-year programs are themselves perceived as failure rather than being a safeguard against the feeling of failure. Bell (1972) found a loss of self-esteem and self-confidence for transition room children compared to at-risk children who were socially promoted. In our research, parents of children in extra-year programs reported that their children had poorer attitudes toward school than did "at-risk" children who were not held back (Shepard & Smith, 1985). In our interviews with parents there was consistent reference to the trauma of adjusting to the retention decision. Even when parents believed in and endorsed the decision, they had to make special efforts to help their child deal with negative stigma. Making a decision that was "for the best" had to be weighed against taunts from other children and the child's own perception that he was slower than his classmates. A negative stigma is emphatically denied, however, by advocates of transition programs. Many teachers who believe in the benefits of retention treat the connotation of failure as if it were the product of prideful and misguided parent attitudes. Yet, very young children use the word "flunking" even when all the adults around them swear never to have used it. From interviews with young children who had been held back, Byrnes and Yamamoto (1984) found that 84% of those who admitted to being retained used words such as "sad," "bad," and "upset" to describe their feelings about it; 3% said they were "embarrassed;" only 6% shared positive feelings such as "happy." (p. 5). In addition, a substantial number of children declined to identify themselves as someone who had repeated, although they were willing to name others who had been retained.

Ironically, extra-year programs have an additional negative consequence. Intended to solve problems created by escalating demands, extra-year programs actually feed the cycle of continued escalation. With one-third of the children formally removed, the

curriculum can now be tailored to the level of the more mature, older, and more able group of children. This selected group of children can now be expected (on average) to sit still longer and do more academic work than when they were members of a more heterogeneous class. In the literature on birth-date effects, for example, every time the entrance age was raised, a new group of youngest children was found to be at a disadvantage (Shepard & Smith, 1986). Extra-year programs are an extreme form of tracking (i.e., the practice of assigning children to homogeneous ability groups for instruction). (In the schools we studied, there were no instances of children being shifted back to the normal track after the initial placement.) But, no one has suggested that we generalize the findings from the tracking research to transition rooms and the practice of holding back. If we were to consider such generalization, we would predict no benefit for the children in the transition rooms themselves; instead we would look for achievement gains for the children in the fast track.

There are alternatives to the problem of accelerated curriculum and negative solution which I have described. Programs which respond to individual differences can foster achievement and growth without sorting children into demeaning tracks. But these programs do not make headlines and seem to be out of fashion. Nevertheless the Department of Education should consider which conception of early education it intends to endorse. Certainly it should not join the readiness bandwagon without understanding its connotation.

CES and the Department may insist that they do not intend to endorse any particular point of view; they only wish to gather data. But by recognizing and measuring the construct, "readiness for school," they will have endorsed it. The importance of this issue is much greater than the ongoing concern about whether the National Assessment will dictate local reading curricula. Everyone believes that 9-year-olds should know how to read; there is merely concern that the national test will promote some versions of reading curricula over others. The debate about readiness raises much larger questions about the goals of early childhood education: Should pre-academic skills receive exclusive focus? and should development of these skills be construed dichotomously, all or nothing, ready or not?

Implications for Assessment

What are the implications of these concerns for a national data-collection effort. My characterization of the readiness viewpoint has been so extreme that you might expect a rejection of any sort of assessment. However, I am not opposed to a wisely conducted national survey. It is difficult to be against collecting useful information. How wonderful it would have been if we had had a database in place to monitor the introduction of

Sesame Street, for example. Furthermore, we are assured that a national assessment would not be used to make harmful classification decisions about individual children.

But a national assessment of young children must be conceived in such a way that it does not foster a narrow set of pre-acaademic skills as the goals of preschool and kindergarten education. And the national assessment should not appear to endorse and promote local efforts to measure readiness (at least not without conscious deliberation over the decision to do so).

My advice is to construct such an assessment following two strong principles: 1) define the domains of assessment broadly, and 2) do not call the assessment a measure of "readiness." If the assessment emphasizes counting, letter recognition, colors, shapes, and letter sounds, then the government will contribute to the narrowing of early childhood programs. Instead, the assessment should strive to be as broad and inventive as possible, including measures of language development, speaking, listening, storytelling, fantasy, attention span, types of play, social interactions, motor development and attitudes toward school. Notice that the decision to test at the beginning of first grade rather than kindergarten is a procedural detail that also will tend to focus the assessment on school tasks and will contribute to the connotation that the government only values academic prerequisites as signs of success.

What to call the assessment is an equally serious issue. If the assessment is said to measure "readiness for school," then the Department of Education has sanctioned the idea that first grade in this country is a fixed entity and that children can be judged either ready or unready for it. Of course, the truth is that what first grade is differs tremendously from one school to the next. We have conducted observations in some schools with very high academic standards where none of the children are called unready, not because some of the first-graders aren't struggling with reading, but because the teachers don't talk about being ready for first grade as if it were a fixed hurdle. The children are all ready for different things. But if the Federal Government conducts an assessment and concludes that 30% of the Nation's 6-year-olds are unready for first grade, then there will be a new impetus for states to construct their own tests to find these children and separate them from their ready age-mates. (This type of follow-up coordination between federal and state assessment efforts is exactly the model that is currently being promoted for the higher grades.)

To broaden its conception of an early childhood assessment, researchers at the Center for Education Statistics should actively consider how the scope of the assessment would change if it were intended to measure the outcomes of childcare or preschool rather than to predict school achievement. Unlike diagnostic tests which can be tailored to a specific use, large-

scale assessment indicators frequently serve multiple purposes. To ensure validity one should try to anticipate and plan for these various uses.

Most especially, before pursuing the logistics of a readiness assessment, the Department of Education should ask what kinds of advice it needs, what kind of conference it requires, to choose between a Readiness Assessment and an Early Childhood Assessment.

REFERENCES

Bell, M. (1972). A study of the readiness room program in a small school district in suburban Detroit, Michigan. Unpublished doctoral dissertation, Wayne State University.

Byrnes, D. & Yamamoto, K. (1984). Academic retention: An inside look. Unpublished paper, Utah State University.

DiPasquale, G.W., Moule, A.D., & Flewelling, R.W. (1980). The Birthdate Effect. Journal of Learning Disabilities, 13, 234-238.

Donofrio, A.F. (1977). Grade repetition: Therapy of choice. Journal of Learning Disabilities, 10, 349-351.

Galloway, J.E., & George, J. (1986). Junior kindergarten. Educational Leadership, 44, 68-69.

Gesell Institute of Human Development. (1982). A gift of time....A developmental point of view. New Haven, CT: Author.

Gredler, G.R. (1984). Transition classes: A viable alternative for the at-risk child? Psychology in the Schools, 21, 463-470.

Martin, A. (1985). About teaching and teachers. Harvard Educational Review, 55, 318-320.

National Association for the Education of Young Children. (1986). NAEYC position statement on developmentally appropriate practice in programs for 4- and 5-year-olds. Young Children, 41, 20-29.

Olenick, M. (1986). Quoted in an article by Edward Fiske in the New York Times, May 27, 1986.

Raygor, B. (1972). A five-year follow-up study comparing the school achievement and school adjustment of children retained in kindergarten and children placed in a transition class. Unpublished doctoral dissertation, University of Minnesota.

Roberts, C.M.L. (1986). Whatever happened to kindergarten. Educational Leadership, 44, 34.

Rohwer, W.D. (1971). Prime time for education: Early childhood or adolescence? Harvard Educational Review, 41, 316-341.

Shepard, L.A., & Smith, M.L. (1985, March). Boulder Valley Kindergarten Study: Retention Practices and Retention Effects. Boulder, CO: Boulder Valley Public Schools.

Shepard, L.A., & Smith, M.L. (1986). Synthesis of research on school readiness and kindergarten retention. Educational Leadership, 44, 78-86.

Shepard, L.A., & Smith, M.L. (1987). Effects of kindergarten retention at the end of first grade. Submitted to Psychology in the Schools.

Appendix B

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Appendix C

Biographical Sketches of Speakers

Pamela A. J. Selden is the teacher of a combined 2nd and 3rd grade class at the Sidwell Friends School in Washington, D.C. She holds a Master of Arts in Teaching degree from Columbia University Teachers College. Ms. Selden has over 20 years of experience teaching at levels from Kindergarten through 4th grade. She taught at the Columbia University Laboratory School, at an Operation Head Start school in Harlem, New York at an Office of Economic Opportunity school in Mississippi, and at schools in New Jersey and Pennsylvania.

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